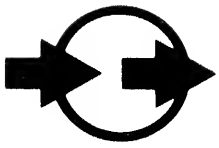
MODEL TC-131 TAPE CONTROLLER
LOGIC MANUAL



western peripherals™

Division of WESPERCORP

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(7)

MODEL TC-131 TAPE CONTROLLER
LOGIC MANUAL

PUBLICATION NUMBER

91000489 A

western peripherals

14321 MYFORD ROAD
TUSTIN, CALIFORNIA 92680

PRINTED IN U.S.A.

MARCH, 1981

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Appendix A Cables and Adapters

Notes

HOW TO USE LOGIC MANUALS

Logic Manuals Contain:

- Schematics of all boards (for logic troubleshooting).
- Assembly drawings (for assembly identification and parts locating).
- Some manuals also contain: Special modifications, block diagrams, flowcharts, listings and other reference information.

Arrangement of Drawings:

- Drawings are generally arranged in numerical order except where other arrangements provide greater convenience. (See Table of Contents)

Table of Contents:

- Provides a listing of the drawings as they appear in the manual.

Functional Index (when used):

- Provides lists of drawings, grouping them as they are used in the system.
- Drawing numbers facilitate easy look-up (See Table of Contents).

Thumb Tabs (when used):

- Provides ready access to schematics.

NOTICE:

CHECK AT THE REAR OF THIS MANUAL FOR:

- Latest Drawing Changes
- Added Drawings
- Notes and Additional Information

HOW TO USE SCHEMATICS

Reference Numbering

*Circled numbers in the lower right-hand corner are used as page numbers for the schematic.
(Drawing sheet numbers may be disregarded)

*Signal sources and destinations are referenced to these page numbers. Example:

Source (from page 3): 3 - READ
Destination (to page 4 & 5): START - 4, 5

Block Diagrams

*Most block diagrams provide page reference numbers in each block which identify the schematic page where the logic may be found.

Signal Levels

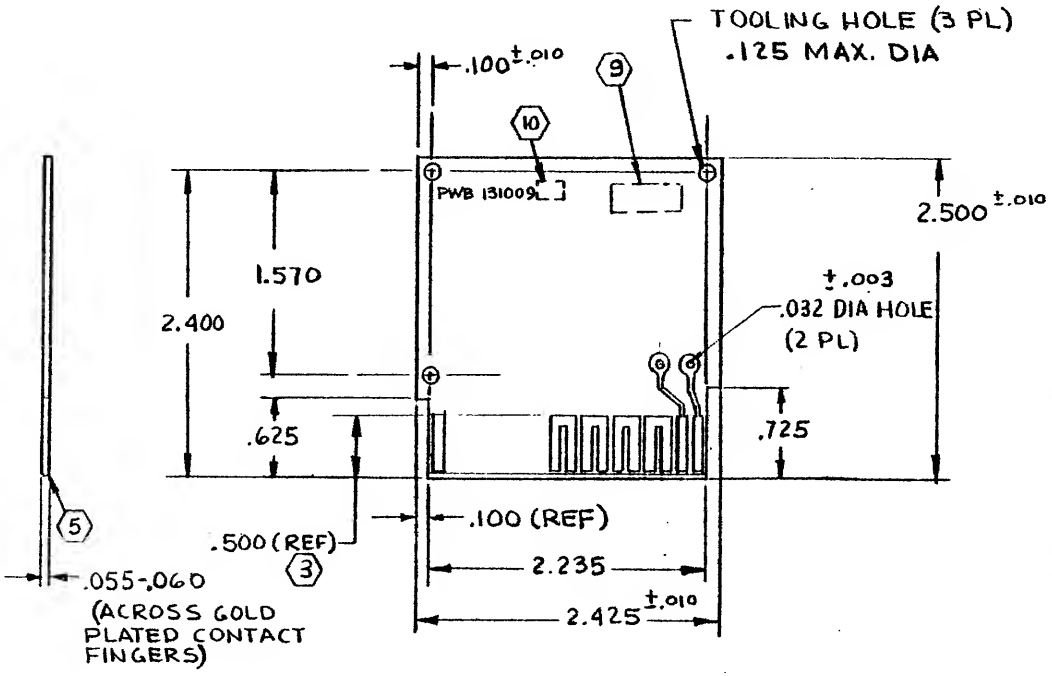
*Normally signals are true when high (+5V) and false when low (0V).

*Signals with bars ($\overline{\text{WRITE}}$) are true when low and false when high.

Off-Board Connectors

*Small boxes or diamonds are used to identify signals which exit the board. (Where the numbers are in the format BA2, CV1, DR2, etc. The first letter identifies the connector, The second digit identifies the pin of the connector, and the third digit idenfifies the side of the board where side one is the component side and side two is the solder side).

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	REV. PER ECO No. 282	6-16-78	N.D. 6-16-78

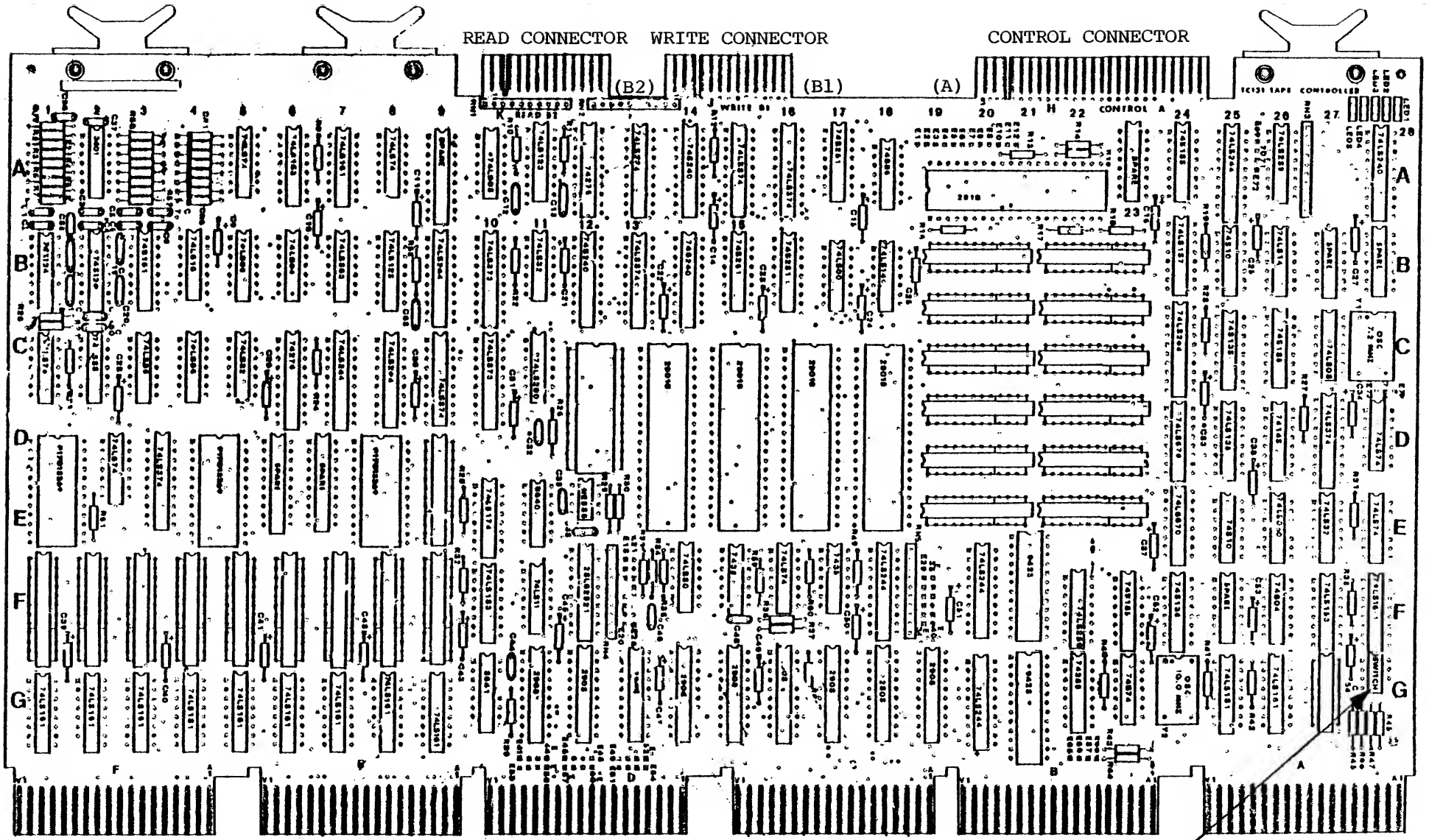


NOTE: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: EPOXY FIBERGLASS TYPE FR4 .055 ± .005 THK 2 OZ COPPER 1 SIDE
2. FINISH: ELECTROPLATED TIN/LEAD, 60/40
3. CARD EDGE CONTACT FINGERS TO BE HARD GOLD PLATED MIN. .00005 THK (NICKLE GOLD OPTIONAL)
4. HOLE REGISTRATION ± .010 OF TRUE POSITION
5. EDGES OF CONTACT FINGERS TO BE BEVELLED BOTH SIDES 45° x .025
6. USE ARTWORK 131009
7. MAX. FILET RADII .015
8. TOLERANCE ON 3 PL DECIMALS (XXX) IS ± .005
9. BOARD TO BE U.L. APPROVED PER U.L. 94VE-2 AND BE PERMANENTLY AND CLEARLY MARKED TO SHOW COMPLIANCE, MARKING TO INCLUDE FABRICATORS NAME, TRADEMARKS, LOGO OR OTHER MEANS OF IDENTIFICATION FOLLOWED BY THE CHARACTERS "U.L. 94VE-2" APPROX WHERE SHOWN.
10. STAMP REV. LTR. OF THIS FAB. DWG. USING BLK. ETCHING INK WHERE SHOWN AND APPLY PROTECTIVE COAT OF CLEAR ACRYLIC ABLE TO WITHSTAND CLEANING WITH FREON.

OCT 18 1979

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC. ± ANGLES ±		western peripherals ANAHEIM, CALIFORNIA		
		FABRICATION DWG- PWB- GRANT CONTINUITY		
APPROVALS	DATE			
DRAWN CORUM	11-24-76			
CHECKED N.D.	11-29-76	SCALE FULL	SIZE B	DRAWING NO. 131009
		DO NOT SCALE DRAWING		SHEET 1 OF 1



TC-131 TAPE CONTROLLER

60000601

The "NRZI-ONLY" Version of the Controller is the same as Assy. 60000601 with parts deleted as noted on Schematic 75000539.

TC-131N Tape Controller
60000692

NOTES: UNLESS OTHERWISE SPECIFIED

1. FOR MATERIAL SEE B/M 60000841
2. MARK WITH ASSY NO AND LATEST REV LTR. APPROX. WHERE SHOWN
3. MAX. HEIGHT OF COMPONENTS FROM SURFACE OF BOARD NOT TO EXCEED .400.
4. REF SCHEMATIC 75000752
5. ON CIRCUIT BOARD ZONE B7- RESISTOR R66 HAS BEEN SCREENED INCORRECTLY IS R66(NOT R65).

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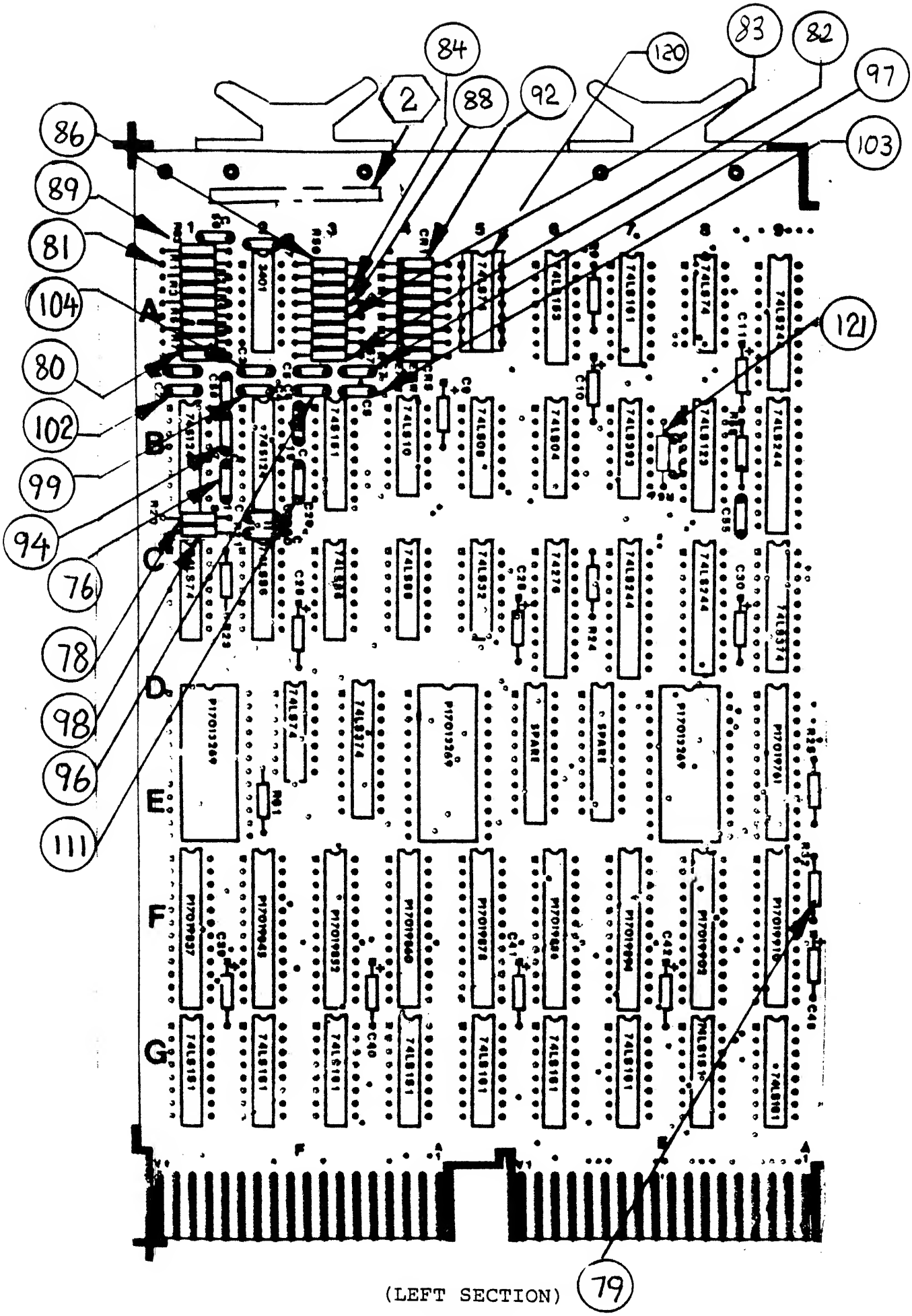
ANAHEIM, CALIFORNIA

ASSEMBLY DRAWING

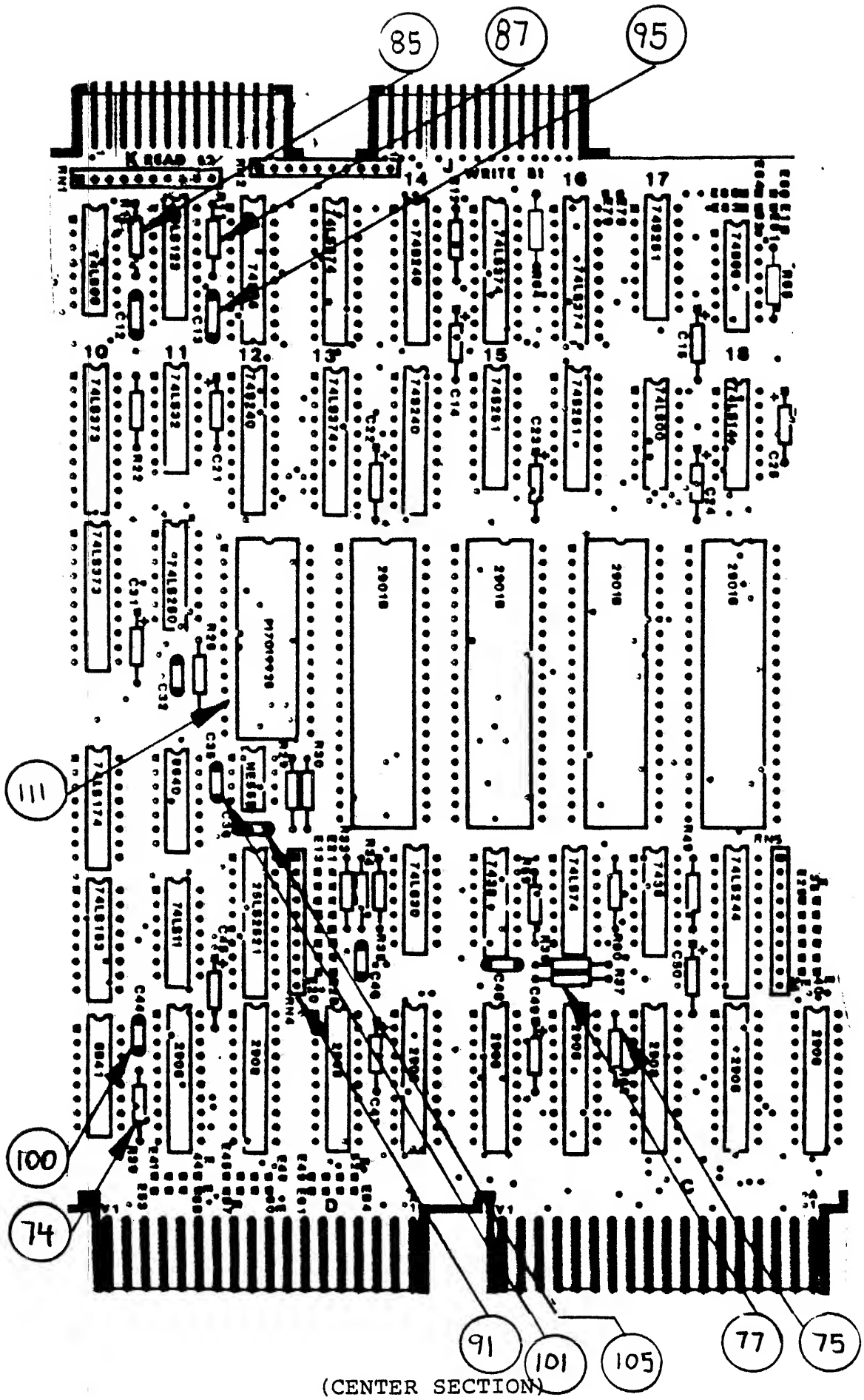
TC 131 TAPE CONTROLLER

SIZE	CODE IDENT NO.	DRAWING NO.
D		60000841
SCALE FULL		SHEET 1 OF 4



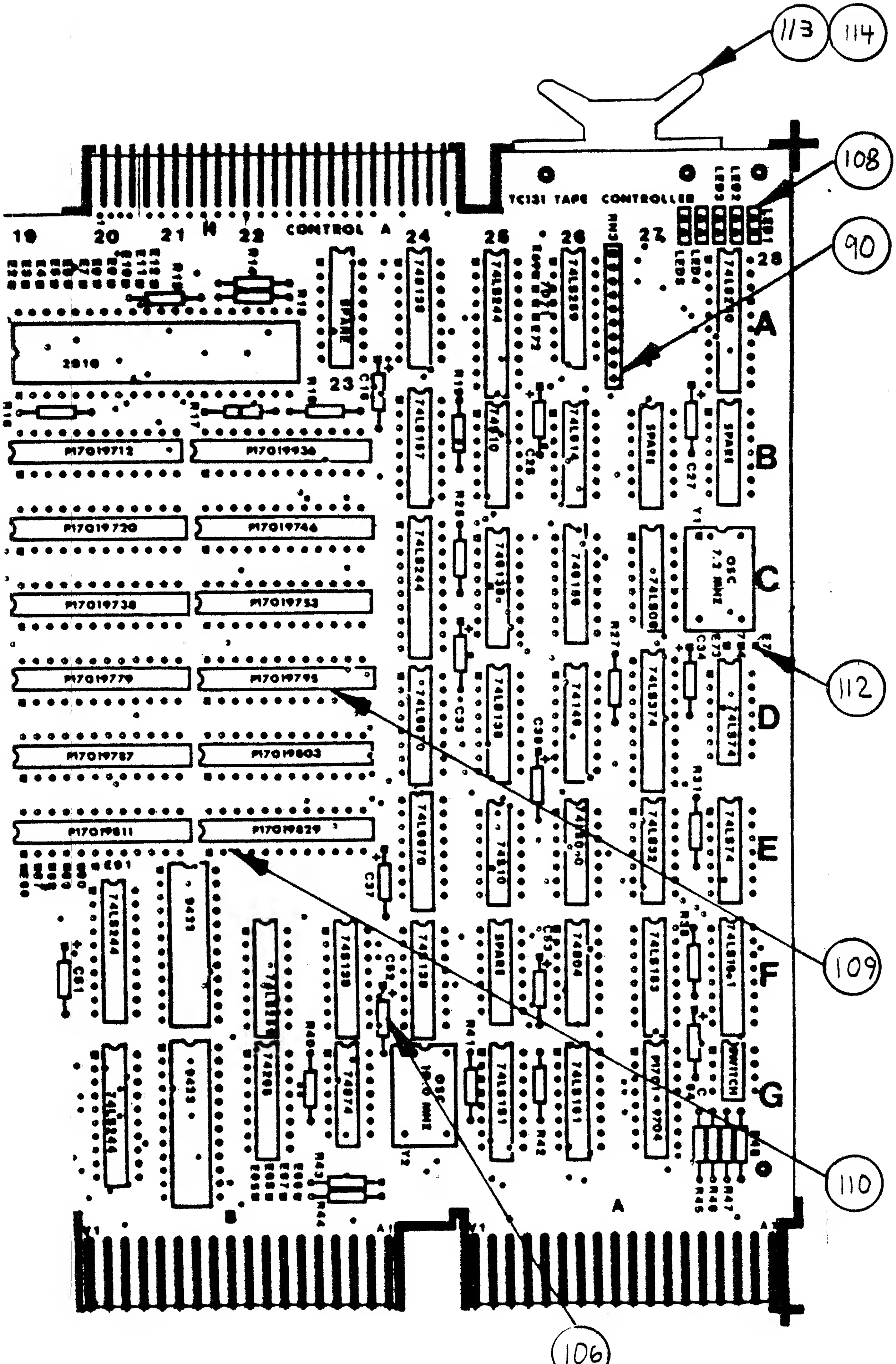
(LEFT SECTION)

60000841



(CENTER SECTION)

60000841



(RIGHT SECTION)

60000841

CALL-OUT NOTES

2 PLCS R18, R39 (74)

3 PLCS R14 R15 R20 (76)

3 PLCS R29, R30, R21 (78)

20 PLCS R9, R12, R13, R16, R17, R19, R22, R24, R25, R27, R28, R31, R32, R33, R38, R40-R43, R61 (79)

10 PLCS R5, R7, R8, R23, R44-R48, R64 (80)

3 PLCS R1, R2, R4 (81)

2 PLCS R50, R51 (86)

R63 (89)

C17 (93)

C18 (94)

C20 (96)

2 PLCS C1, C6 (98)

C4 (99)

4 PLCS C32, C44, C46, C48 (100)

C2 (102)

C3 (104)

C12 (111)

(75) 7 PLCS R26, R34, R36, R49, R59, R60, R62

(77) 2 PLCS R35, R37

(82) R57

(83) 2 PLCS R54, R55

(84) R52

(85) 2 PLCS R10 R58

(87) R11

(88) 4 PLCS R3 R6 R53 R56

(90) 3 PLCS RN1, RN2, RN3

(91) 2 PLCS RN4, RN5

(92) 8 PLCS CR1-CR8

(95) 4 PLCS C12, C13, C19, C55

(97) C7

(101) C35

(103) 2 PLCS C5, C8

(105) 6 PLCS C36 C56-C60

(106) 34 PLCS C9, C10, C11, C14, C15, C16, C21-C31, C33, C34, C37-C43, C45, C47, C49-C54

(108) 5 PLCS LED1-LED5

(109) 22 PLCS B19, B21, C19A, C19B, C21A, C21B, D9, D19A, D19B, D21A, D21B, E19, E21, F1-F9

(110) 23 PLCS B19, B21, C19A, C19B, C21A, C21B, D9, D19A, D19B, D21A, D21B, E19, E21, F1-F9, G27

(112) 75 PLCS E1-E75

(113) 3 PLCS

(114) 6 PLCS

(120)

(5)

(121) R66

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Destination Decoder	
Source Decoder	
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"B" Latch	
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D-Bus Test Select	
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NRZI Read Register Tape Control & Status Read Strobe Interrupt	16
PE READ LOGIC PE Deskew Buffer Timer	16

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PE Drop-Out Gate	
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PE Clock Selector	
PE Read Register	20-22
PE Window Counter	
PE Desken Register	
PE Sequencer ROM's	23-25

	A	B	C	D	E	F	G
1		19	19	20		23	20
2	19	19	20,21	20		23	20
3		19	21,22	20,22		23	20
4		16	18,22	21		24	21
5	18	16,17	17,18	21		24	21
6	18	6,18	18			24	21
7	18	18	17	22		25	22
8	18	16	17			25	22
9		17	17	17		25	22
10	3,4	16	16		15	15	3
11	3,4	3,7	15		4	3	1
12	3,16	16	3		10	2	1
13	14	14	5				1
14	14	14				2	1
15	7	7	5			2,4	2
16	7	7	5			2,4	1
17	7	7				4	1
18	7	3,7	5			2	1
19	9	11	A/B 11	A/B 11	11		1
20						6	6
21		11	A/B 12	A/B 12	12	10	10
22						6	10
23						6	10
24	14	9	9	7	7	6	
25	14	6	6	8	5,7		13
26	6	5,6,8	5	8	4,8,13	13	13
27			5,10	8	5,8	13	13
28	15			8	8	13	13

TC-131
BOARD LOCATION
TO
SCHEMATIC PAGE
CROSS-REFERENCE
(ASSY 60000601)

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	RELEASE	1-19-81	
B	REVISED SHTS ③ & ④ PER ECO 832	1-28-81	
C	REF. E.C.O. 854	2-26-81	

CONTROL A

	H		
SLT 6	1	2	GND
SLT 7	3	4	GND
SLT 5	5	6	GND
SLT 4	7	8	GND
SLT 3	9	10	GND
SLT 0	11	12	GND
SLT 1	13	14	GND
SLT 2	15	16	GND
FLPT	17	18	GND
WNB	19	20	GND
OVW	21	22	GND
RSL	23	24	GND
EOTP	25	26	GND
RWC	27	28	GND
DSL	29	30	GND
BOTP	31	32	GND
FSL	33	34	GND
+5V	35	36	GND
+5V	37	38	GND
RWG	39	40	GND
TRDY	41	42	GND
ONL	43	44	GND
	45	46	GND
SPD	47	48	GND
NRZ	49	50	GND

WRITE B1

	J		
WD5	1	2	GND
WD7	3	4	GND
WARS	5	6	GND
WD6	7	8	GND
	9	10	GND
WD5	11	12	GND
WDP	13	14	GND
WD4	15	16	GND
WD0	17	18	GND
WD3	19	20	GND
WD1	21	22	GND
WD2	23	24	GND
+5V	25	26	GND

READ B2

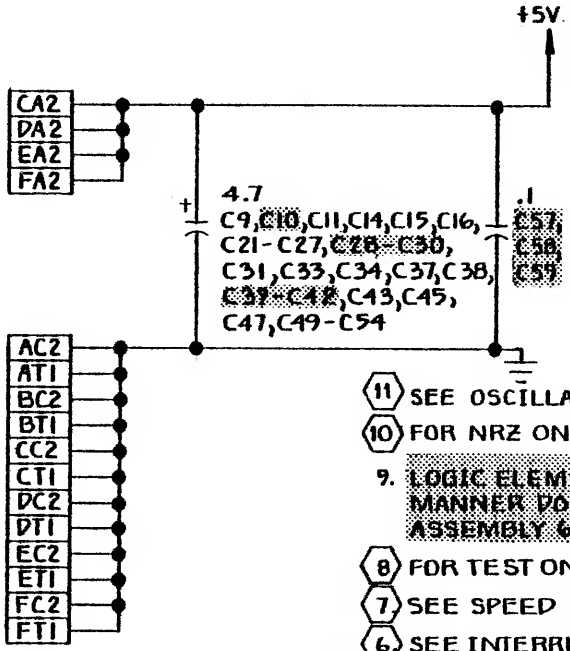
	K		
RD7	1	2	GND
RD6	3	4	GND
RD5	5	6	GND
RD4	7	8	GND
RD3	9	10	GND
RD2	11	12	GND
RD1	13	14	GND
NRZ	15	16	GND
	17	18	GND
RDO	19	20	GND
RDS	21	22	GND
RDP	23	24	GND
	25	26	GND

TAPE CTRL CBL SWA-4

⑦ SPEED SETTING

SW POS G28	125 75	125 45	125 37.5	125 25	75 45	75 37.5	75 25	45 37.5	45 25	37.5 25	SELB SELA
1	C	C	C	C	C	C	C	O	O	O	
2	C	C	C	C	O	O	O	C	C	O	
3	C	C	O	O	C	O	O	C	O	C	
4	C	O	C	O	O	C	O	O	C	C	

C = ON
O = OFF



LAST DESIGNATION USED	
RESISTOR	R63
CAPACITOR	C60
DIODE	CR8
OSCILLATOR	Y2
LIGHT EMITTING DIODE	LED 5
RESISTOR NETWORK	RN5

⑪ SEE OSCILLATOR JUMPER TABLE.
⑩ FOR NRZ ONLY OPERATION.
9. LOGIC ELEMENTS SHADED IN THIS MANNER DO NOT EXIST ON THE TC 131N ASSEMBLY 60000692 (NRZ ONLY).
⑧ FOR TEST ONLY
⑦ SEE SPEED SETTING TABLE.
⑥ SEE INTERRUPT PRIORITY LEVEL TABLE.
⑤ SEE INTERRUPT VECTOR TABLE.
④ SEE DEVICE ADDRESS TABLE
3. REFERENCE ASSY 60000601.
2. CAPACITOR VALUES ARE IN MICROFARADS.
1. RESISTANCE VALUES ARE IN OHMS.
NOTES: UNLESS OTHERWISE SPECIFIED

TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS ± DEC. ± ANGLES ±

APPROVALS	DATE
DRAWN L. FRANZKE	10-28-80
CHECKED [illegible]	11-10-80
	11-10-80

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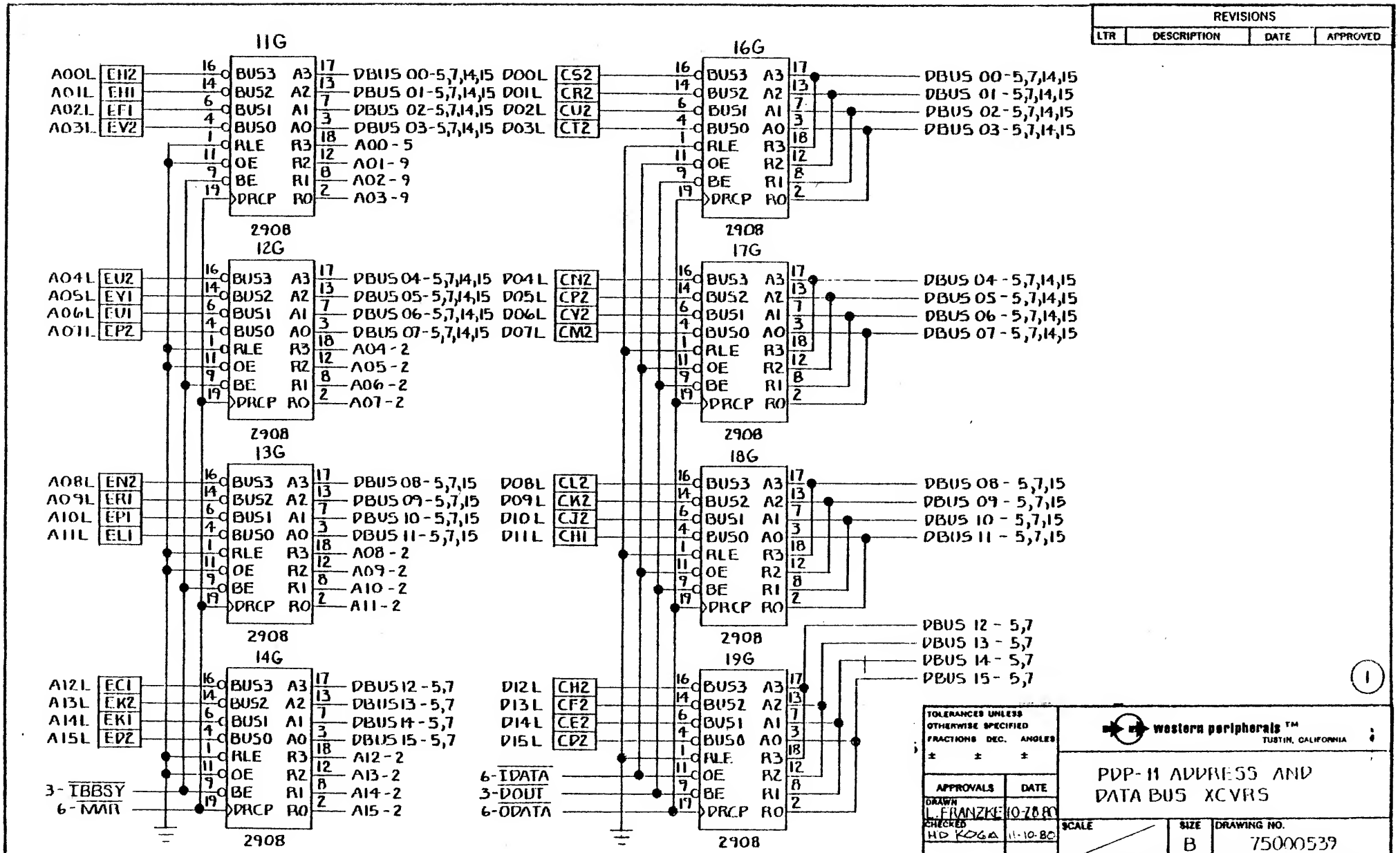
SCHEMATIC
TC-131 TAPE CONTROLLER

SCALE | SIZE B | DRAWING NO. 75000539

DO NOT SCALE DRAWING | SHEET 1 OF 27

504108 C



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

APPROVALS	DATE
DRAWN L. FRANZKE	10-28-80
CHECKED HD KOGA	11-10-80

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PDP-11 ADDRESS AND DATA BUS XCVRS

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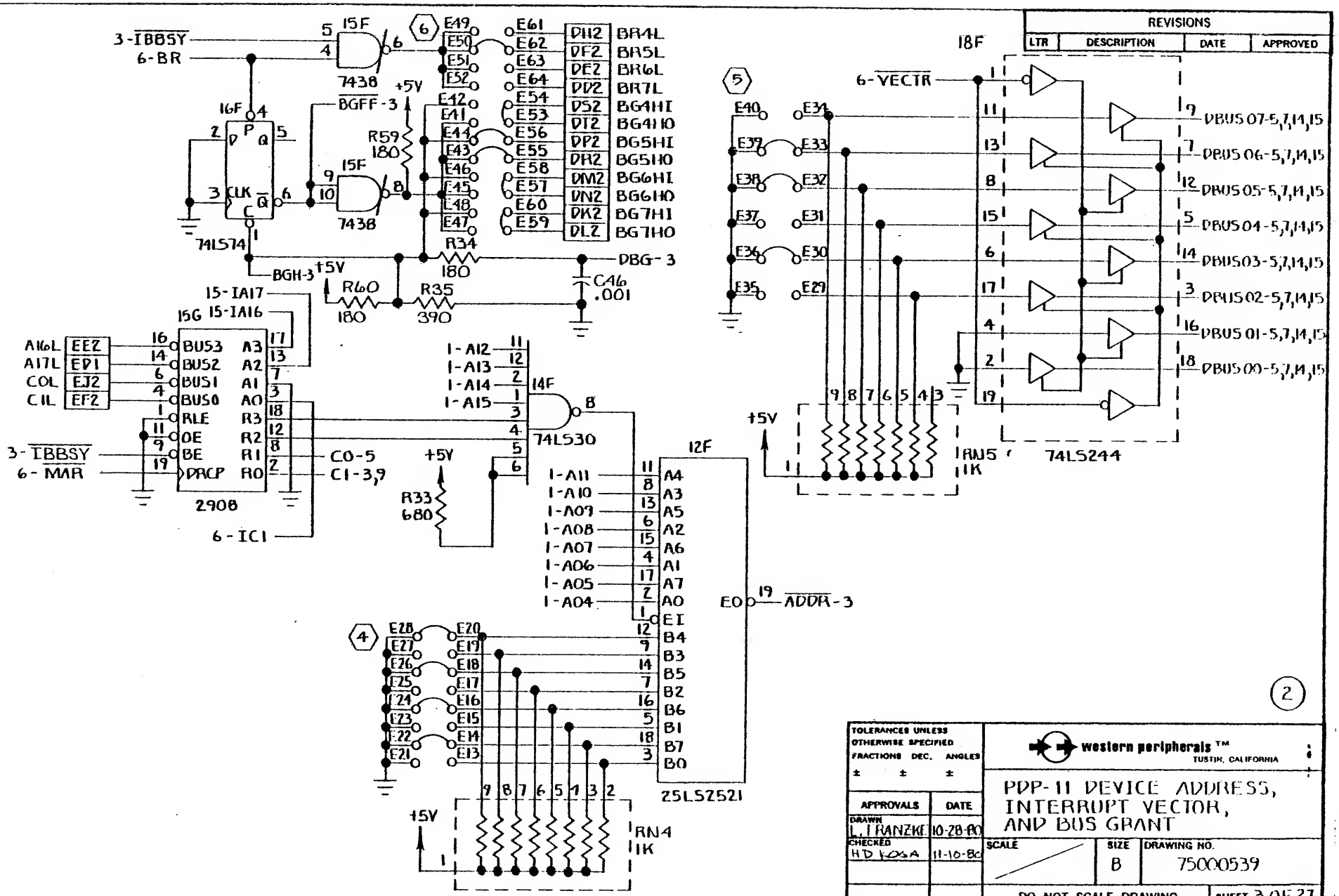
DO NOT SCALE DRAWING — SHEET 2 OF 27

504108 C



TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±

APPROVALS	DATE
DRAWN L. FRANZKE	10-28-80
CHECKED HD LOSA	11-16-80

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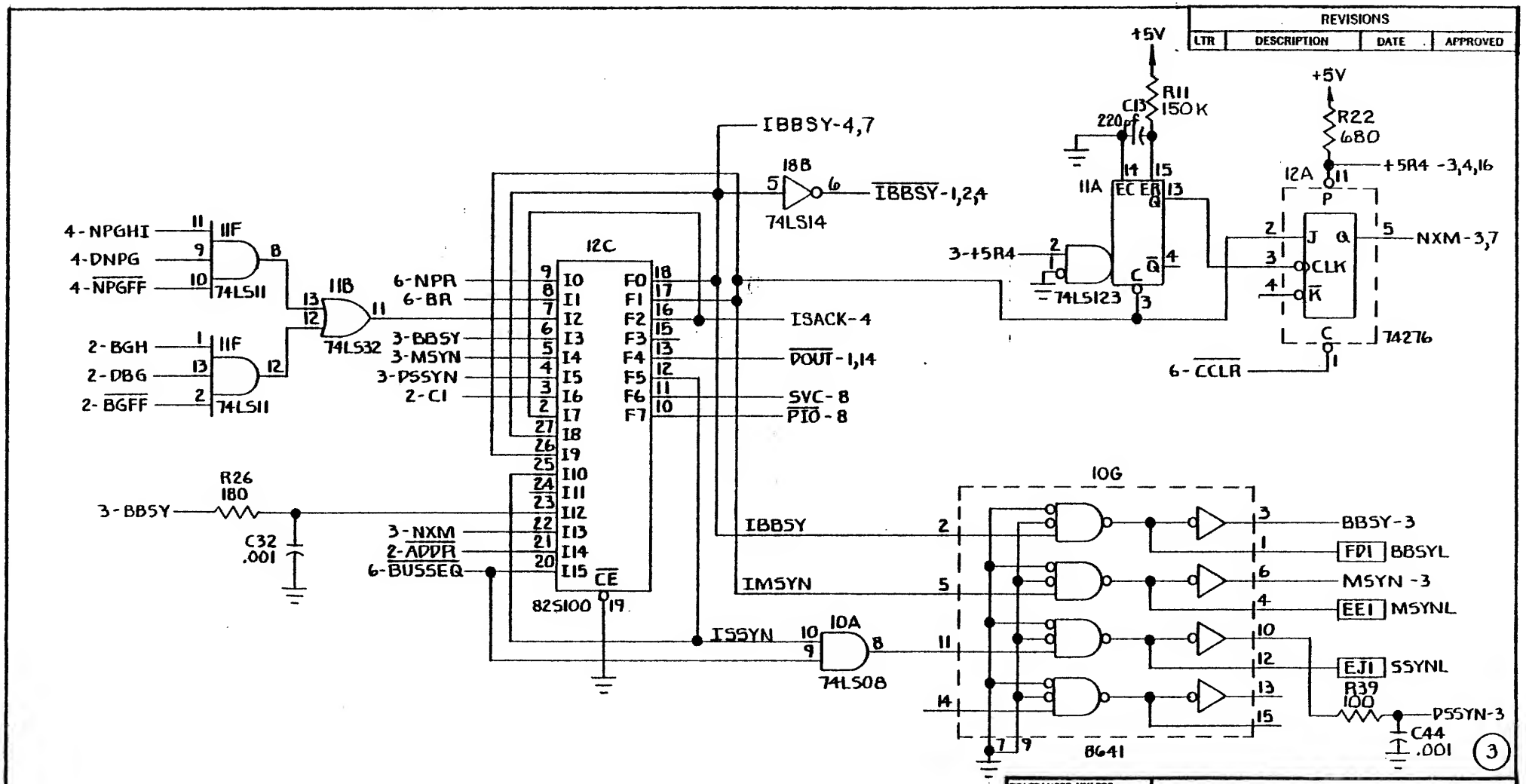
PDP-11 DEVICE ADDRESS, INTERRUPT VECTOR, AND BUS GRANT

SCALE	SIZE	DRAWING NO.
	B	75000539

DO NOT SCALE DRAWING SHEET 30 OF 27

504108 C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DESCRIPTION
DATE
APPROVED
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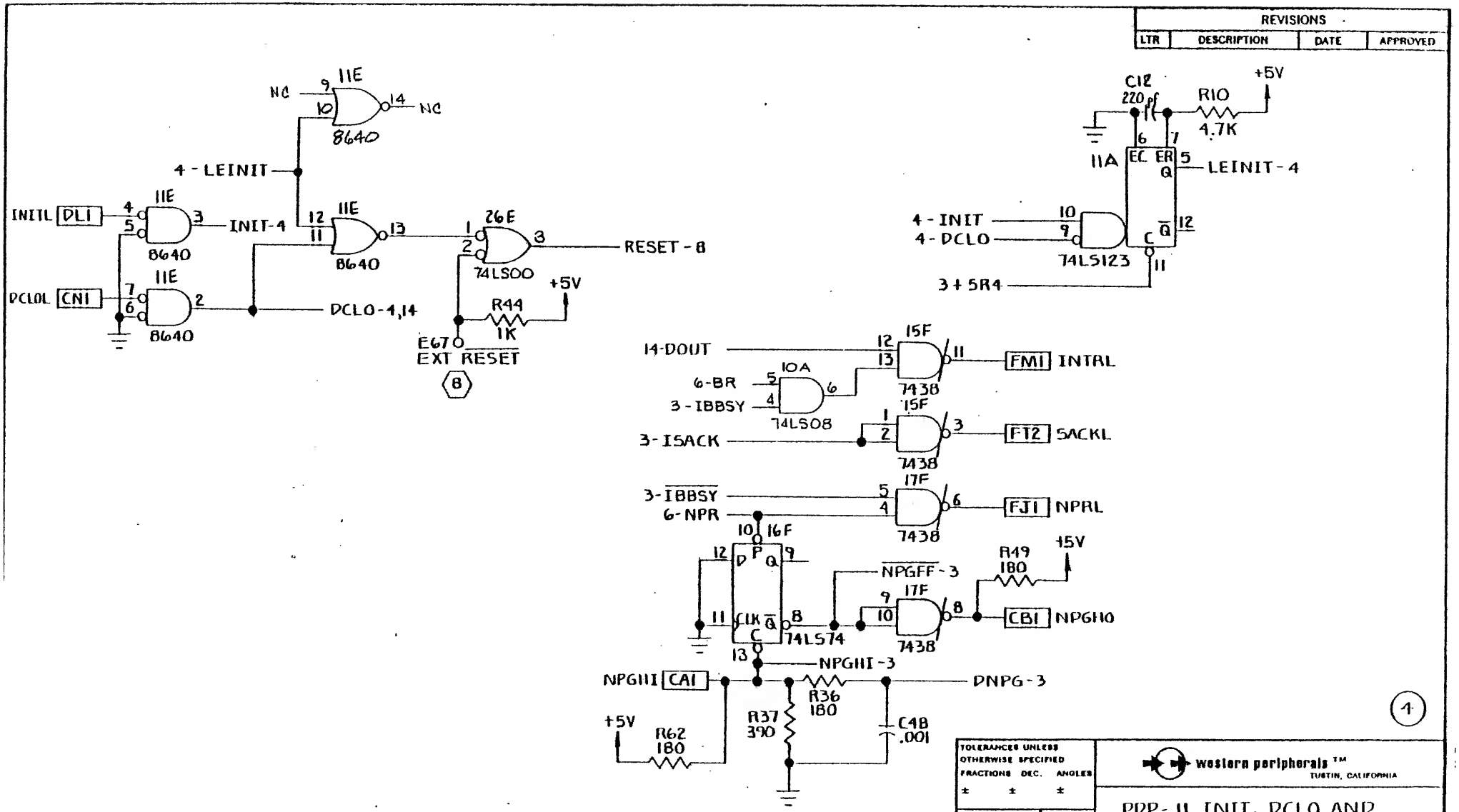
R11
150K
C13
220pf
+5V
R22
680
+5R4 -3,4,16
IBBSY-4,7
18B
74LS14
IBBSY-1,2,4
11A
74LS123
12A
74276
NXM-3,7
3-+5R4
6-CCLR
4-NPGHI
4-DNPG
4-NPGFF
11F
74LS11
2-BGH
2-DBG
2-BGFF
11F
74LS11
11B
74LS32
12C
6-NPR
6-BR
3-BBSY
3-MSYN
3-PSSYN
2-CI
ISACK-4
DOUT-1,14
SVC-8
PIO-8
825100
R26
180
3-BBSY
C32
.001
3-NXM
2-ADDR
6-BUSSEQ
IBBSY
IMSYN
ISSYN
10A
74LS08
10G
8641
BBSY-3
FDI BBSYL
MSYN-3
EEI MSYNL
EJI SSYNL
R39
100
PSSYN-3
C44
.001
3
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
APPROVALS
DATE
DRAWN L. FRANZKE 10-28-80
CHECKED H D KOGA 11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
PDP-11 BUS CTRL
AND NXM
SCALE
SIZE B
DRAWING NO. 75000539
DO NOT SCALE DRAWING
SHEET 4 OF 27
504108 C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LTR
DESCRIPTION
DATE
APPROVED
NC
11E
8640
NC
4-LEINIT
INITL
DLI
INIT-4
DCLOL
CNI
DCLO-4,14
RESET-8
26E
74LS00
+5V
R44
1K
E67
EXT RESET
8
C12
220 pf
R10
4.7K
11A
74LS123
LEINIT-4
4-INIT
4-DCLO
3+5R4
14-DOUT
6-BR
3-IBBSY
3-ISACK
3-IBBSY
6-NPR
10A
74LS08
15F
7438
FMI
INTRL
FT2
SACKL
17F
FJI
NPRL
16F
74LS74
NPGFF-3
R49
180
CBI
NPGHO
NPGHI-3
NPGHI
CAI
DNPG-3
R36
180
R37
390
C48
.001
R62
180
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
APPROVALS
DATE
DRAWN
L. FRANZKE
10-28-80
CHECKED
H.D. KOGA
11-10-80
western peripherals TM
TUSTIN, CALIFORNIA
PDP-11 INIT, DCLO, AND NPR GRANT
SCALE
SIZE
B
DRAWING NO.
75000539
DO NOT SCALE DRAWING
SHEET 5 OF 27
4

FOR "B" REV NETWORK ONLY

REVISIONS			
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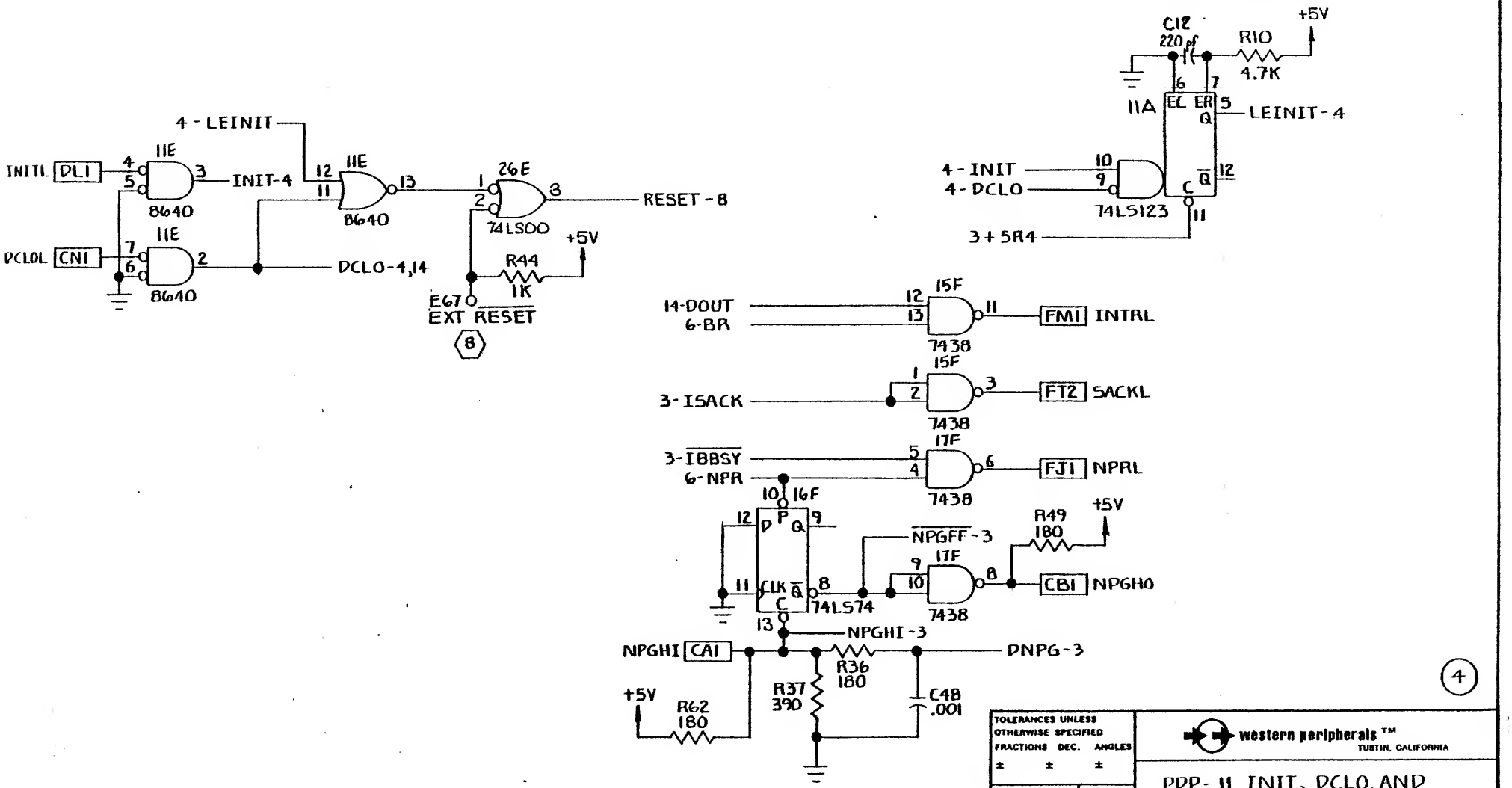

4

TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

APPROVALS	DATE
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CHECKED HTD KOGA	11-10-80

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PDP-11 INIT, DCLO, AND NPR GRANT

SCALE	SIZE	DRAWING NO.
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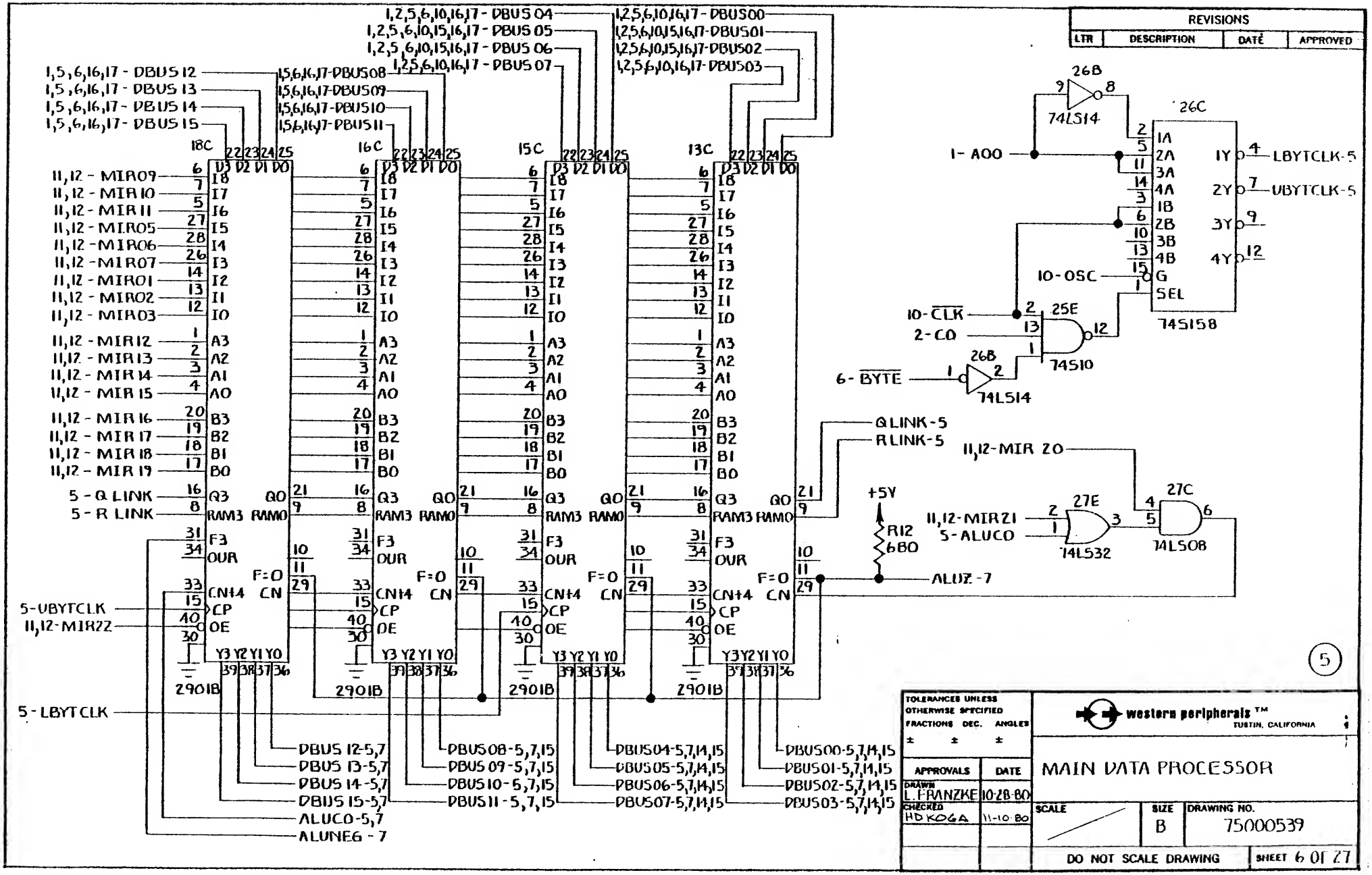
DO NOT SCALE DRAWING — SHEET 5 OF 27

504108 C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16C
15C
13C
2901B
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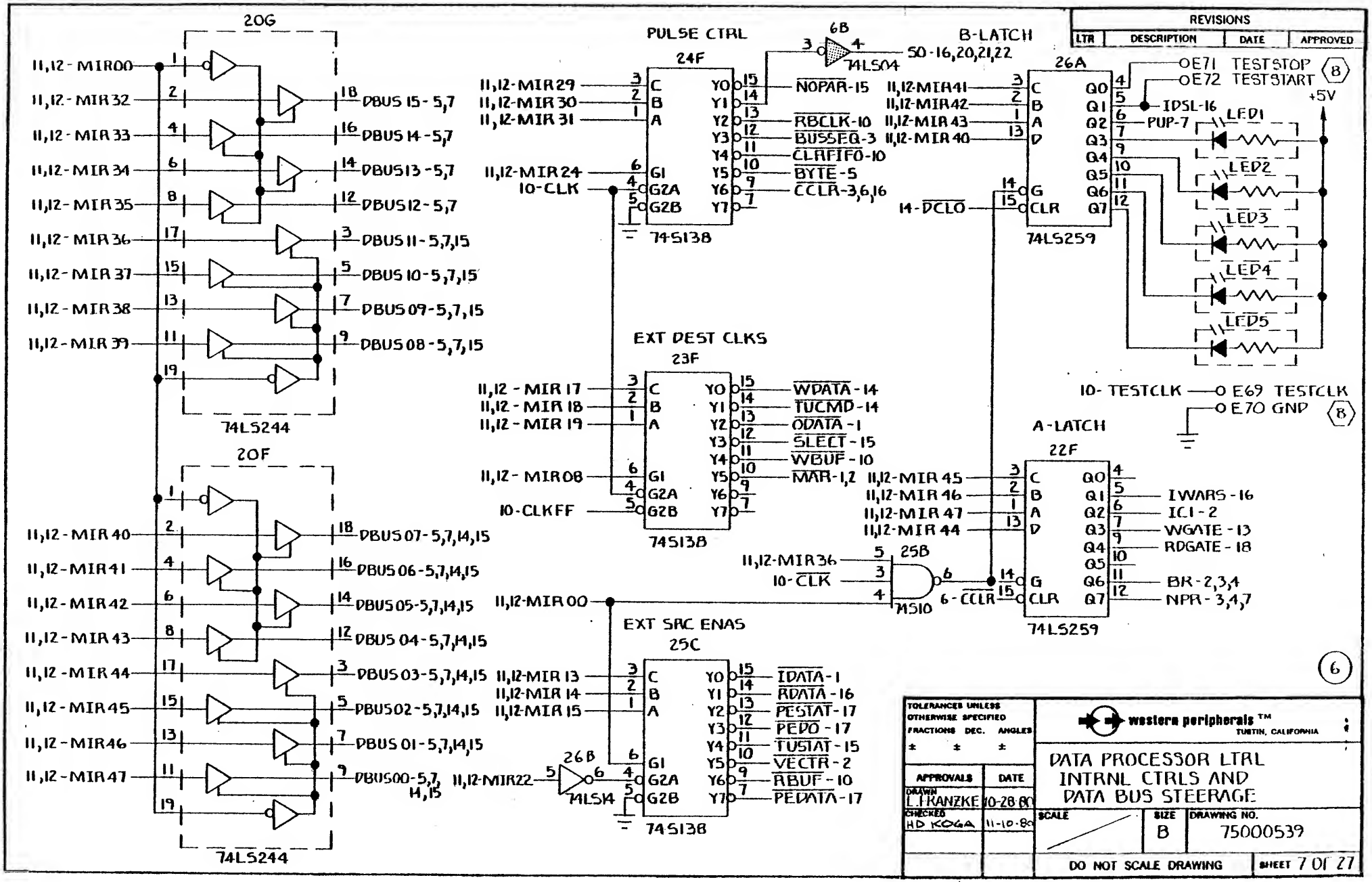
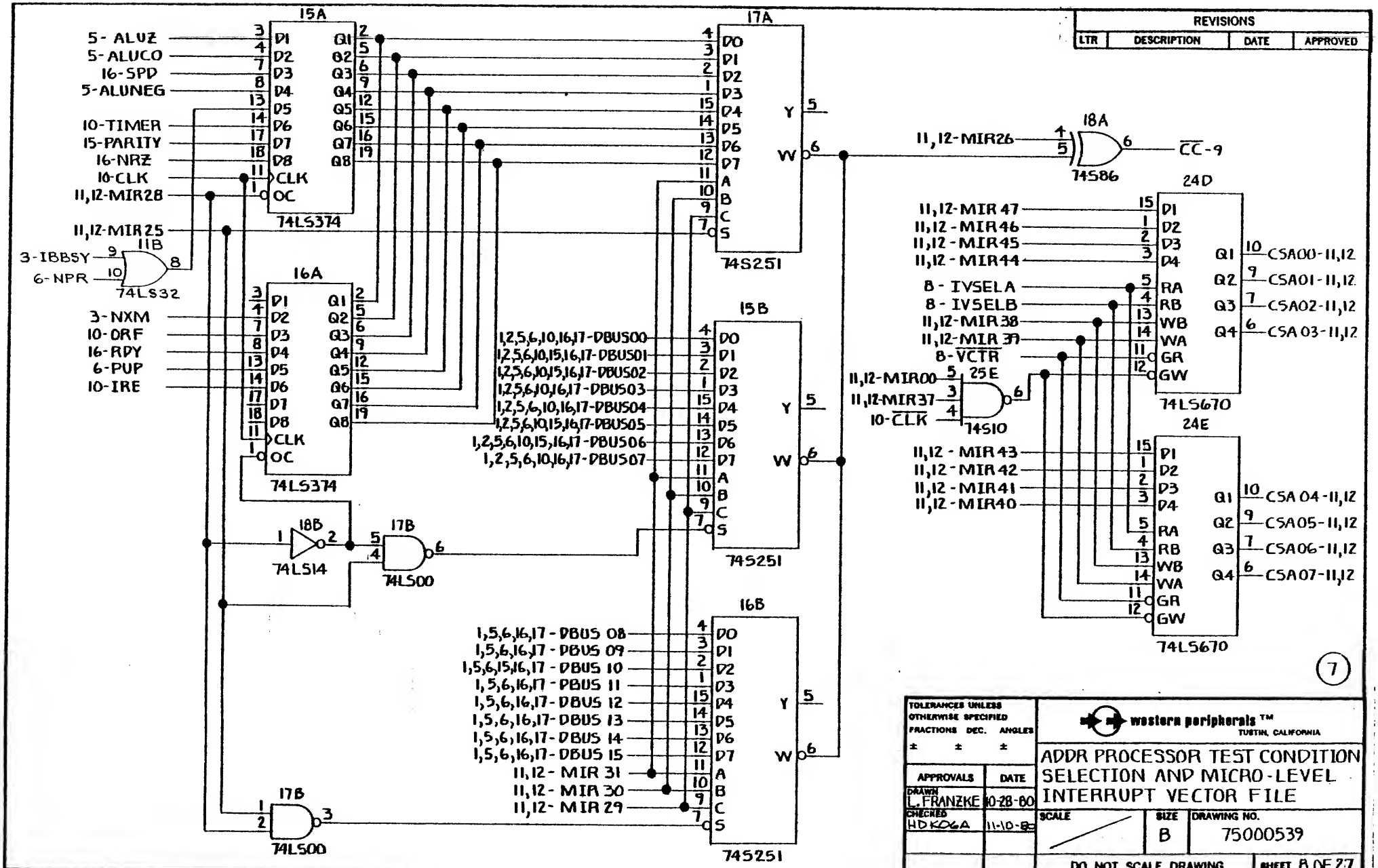
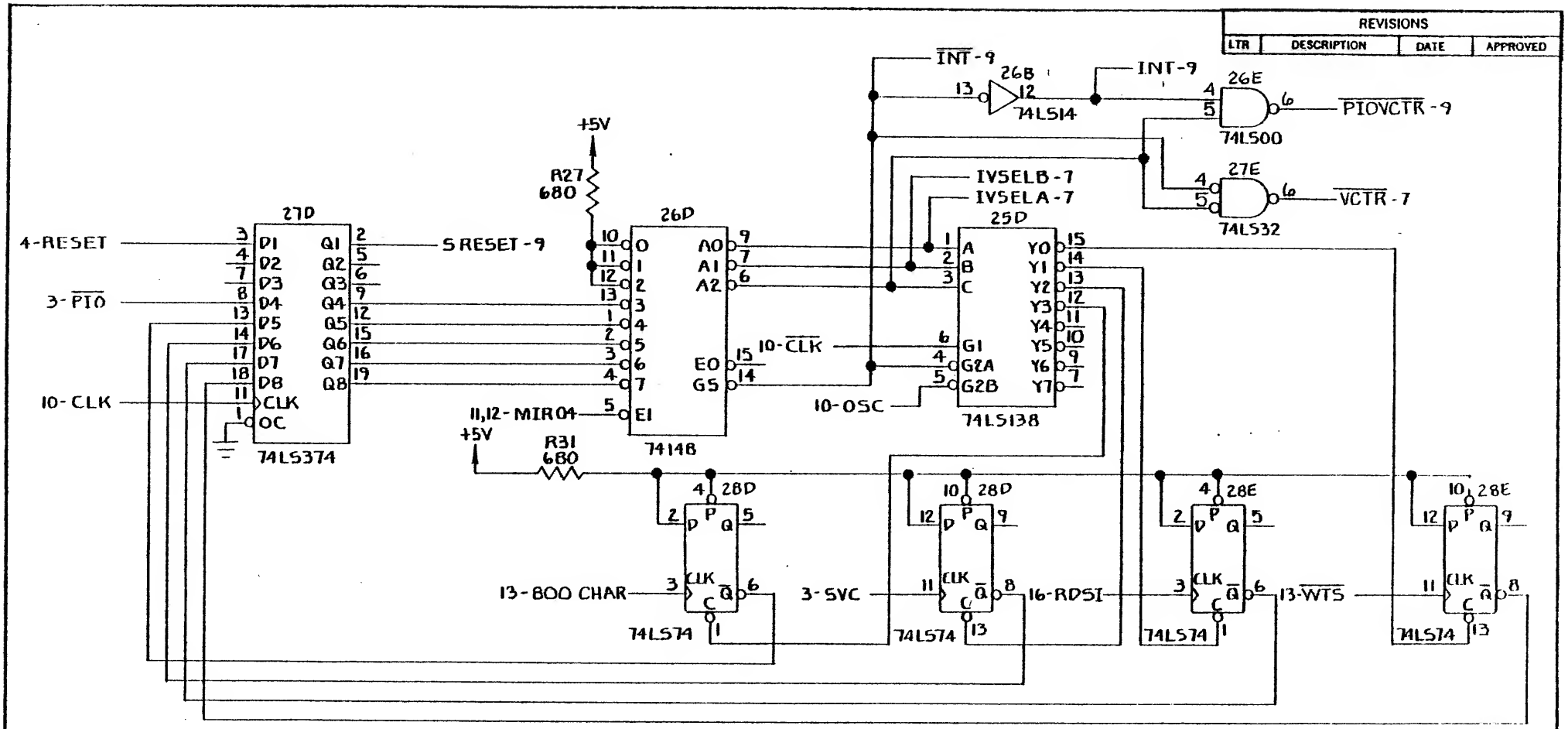
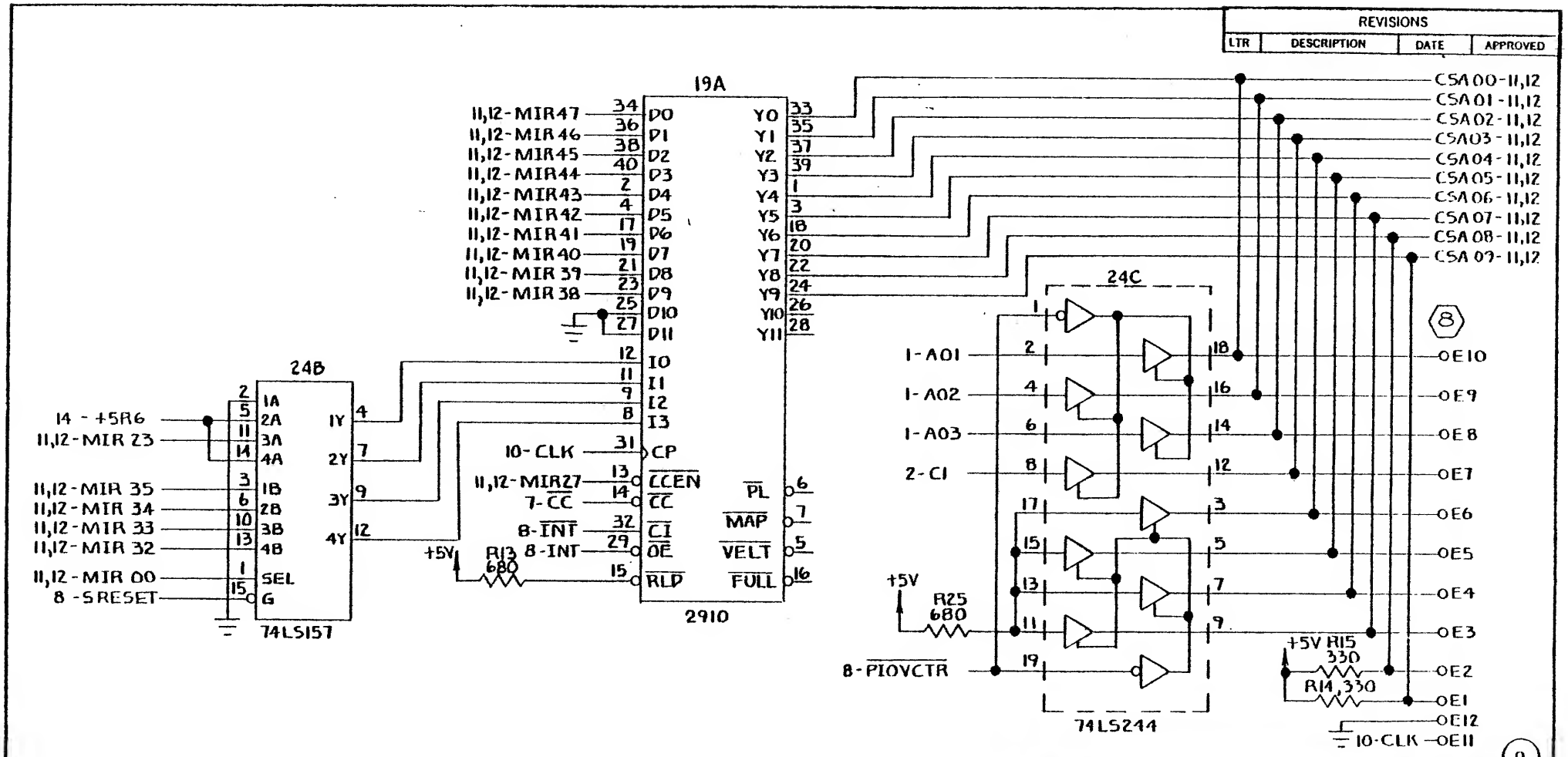
1,5,6,16,17 - DBUS 13
1,5,6,16,17 - DBUS 14
1,5,6,16,17 - DBUS 15
1,2,5,6,10,16,17 - DBUS 04
1,2,5,6,10,15,16,17 - DBUS 05
1,2,5,6,10,15,16,17 - DBUS 06
1,2,5,6,10,16,17 - DBUS 07
1,5,6,16,17-DBUS08
1,5,6,16,17-DBUS09
1,5,6,16,17-DBUS10
1,5,6,16,17-DBUS11
1,2,5,6,10,16,17 - DBUS00
1,2,5,6,10,15,16,17-DBUS01
1,2,5,6,10,15,16,17-DBUS02
1,2,5,6,10,16,17-DBUS03
11,12 - MIR09
11,12 - MIR10
11,12 - MIR11
11,12 - MIR05
11,12 - MIR06
11,12 - MIR07
11,12 - MIR01
11,12 - MIR02
11,12 - MIR03
11,12 - MIR12
11,12 - MIR13
11,12 - MIR14
11,12 - MIR15
11,12 - MIR16
11,12 - MIR17
11,12 - MIR18
11,12 - MIR19
5 - Q LINK
5 - R LINK
5-UBYTCLK
11,12-MIR22
5-LBYTCLK
ALUCO-5,7
ALUNE6-7
DBUS 12-5,7
DBUS 13-5,7
DBUS 14-5,7
DBUS 15-5,7
DBUS08-5,7,15
DBUS 09-5,7,15
DBUS10-5,7,15
DBUS11-5,7,15
DBUS04-5,7,14,15
DBUS05-5,7,14,15
DBUS06-5,7,14,15
DBUS07-5,7,14,15
DBUS00-5,7,14,15
DBUS01-5,7,14,15
DBUS02-5,7,14,15
DBUS03-5,7,14,15
Q LINK-5
R LINK-5
+5V
R12
680
ALUZ-7
11,12-MIR 20
11,12-MIR21
5-ALUCO
74LS14
74LS158
74S10
74LS32
74LS08
1-A00
10-OSC
10-CLK
2-CO
6-BYTE
LBYTCLK-5
UBYTCLK-5
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
APPROVALS DATE
DRAWN L. FRANZKE 10-28-80
CHECKED HD KOGA 11-10-80
western peripherals TM
TUSTIN, CALIFORNIA
MAIN DATA PROCESSOR
SCALE
SIZE B
DRAWING NO. 75000539
DO NOT SCALE DRAWING
SHEET 6 OF 27
5
504108 C


20G
11,12-MIR00
11,12-MIR32
11,12-MIR33
11,12-MIR34
11,12-MIR35
11,12-MIR36
11,12-MIR37
11,12-MIR38
11,12-MIR39
DBUS 15-5,7
DBUS 14-5,7
DBUS13-5,7
DBUS12-5,7
DBUS11-5,7,15
DBUS 10-5,7,15
DBUS09-5,7,15
DBUS08-5,7,15
74LS244
20F
11,12-MIR40
11,12-MIR41
11,12-MIR42
11,12-MIR43
11,12-MIR44
11,12-MIR45
11,12-MIR46
11,12-MIR47
DBUS07-5,7,14,15
DBUS06-5,7,14,15
DBUS05-5,7,14,15
DBUS04-5,7,14,15
DBUS03-5,7,14,15
DBUS02-5,7,14,15
DBUS01-5,7,14,15
DBUS00-5,7,14,15
74LS244
PULSE CTRL
24F
11,12-MIR29
11,12-MIR30
11,12-MIR31
11,12-MIR24
10-CLK
NOPAR-15
RBCLK-10
BUSSEQ-3
CLRFIFO-10
BYTE-5
CCLR-3,6,16
74S138
6B
74LS04
50-16,20,21,22
B-LATCH
26A
11,12-MIR41
11,12-MIR42
11,12-MIR43
11,12-MIR40
14-DCLO
74LS259
OE71 TESTSTOP
OE72 TESTSTART
IDSL-16
PUP-7
+5V
LED1
LED2
LED3
LED4
LED5
10-TESTCLK
E69 TESTCLK
E70 GND
EXT DEST CLKS
23F
11,12-MIR17
11,12-MIR18
11,12-MIR19
11,12-MIR08
10-CLKFF
WDATA-14
TUCMD-14
ODATA-1
SLECT-15
WBUF-10
MAR-1,2
74S138
A-LATCH
22F
11,12-MIR45
11,12-MIR46
11,12-MIR47
11,12-MIR44
IWARS-16
IC1-2
WGATE-13
RDGATE-18
BR-2,3,4
NPR-3,4,7
74LS259
11,12-MIR36
10-CLK
25B
74S10
6-CCLR
11,12-MIR00
EXT SRC ENAS
25C
11,12-MIR13
11,12-MIR14
11,12-MIR15
11,12-MIR22
IDATA-1
RDATA-16
PESTAT-17
PEDO-17
TUSTAT-15
VECTR-2
RBUF-10
PEDATA-17
26B
74LS14
74S138
REVISIONS
LTR
DESCRIPTION
DATE
APPROVED
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
APPROVALS
DATE
DRAWN
L.I.KRANZKE 10-28-80
CHECKED
H.D. KOGA 11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
DATA PROCESSOR LTRL
INTRNL CTRLS AND
DATA BUS STEERAGE
SCALE
SIZE
B
DRAWING NO.
75000539
DO NOT SCALE DRAWING
SHEET 7 OF 27
504108 C

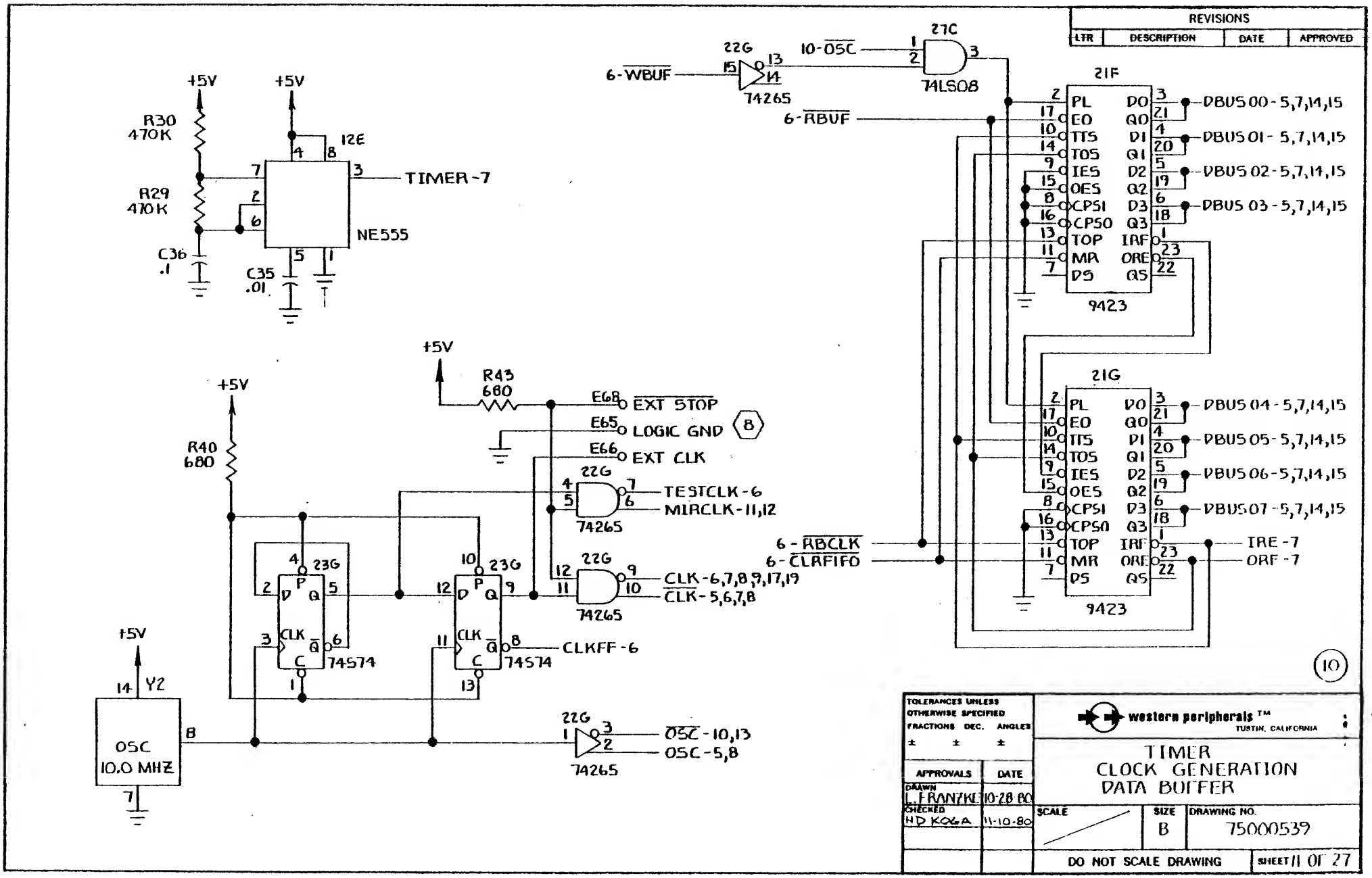

REVISIONS
LTR DESCRIPTION DATE APPROVED
15A
5-ALUZ
5-ALUCO
16-SPD
5-ALUNEG
10-TIMER
15-PARITY
16-NRZ
10-CLK
11,12-MIR28
11,12-MIR25
3-IBBSY
6-NPR
11B
74LS32
74LS374
16A
3-NXM
10-ORF
16-RDY
6-PUP
10-IRE
74LS374
17A
74S251
15B
1,2,5,6,10,16,17-DBUS00
1,2,5,6,10,15,16,17-DBUS01
1,2,5,6,10,15,16,17-DBUS02
1,2,5,6,10,16,17-DBUS03
1,2,5,6,10,16,17-DBUS04
1,2,5,6,10,15,16,17-DBUS05
1,2,5,6,10,15,16,17-DBUS06
1,2,5,6,10,16,17-DBUS07
74S251
18B
74LS14
17B
74LS00
16B
1,5,6,16,17-DBUS 08
1,5,6,16,17-DBUS 09
1,5,6,15,16,17-DBUS 10
1,5,6,16,17-DBUS 11
1,5,6,16,17-DBUS 12
1,5,6,16,17-DBUS 13
1,5,6,16,17-DBUS 14
1,5,6,16,17-DBUS 15
11,12-MIR 31
11,12-MIR 30
11,12-MIR 29
74S251
17B
74LS00
18A
11,12-MIR26
74S86
24D
11,12-MIR47
11,12-MIR46
11,12-MIR45
11,12-MIR44
8-IVSELA
8-IVSELB
11,12-MIR38
11,12-MIR37
8-VCTR
CSA00-11,12
CSA01-11,12
CSA02-11,12
CSA03-11,12
74LS670
25E
11,12-MIR00
11,12-MIR37
10-CLK
74S10
24E
11,12-MIR43
11,12-MIR42
11,12-MIR41
11,12-MIR40
CSA04-11,12
CSA05-11,12
CSA06-11,12
CSA07-11,12
74LS670
7
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
APPROVALS DATE
DRAWN L. FRANZKE 10-28-80
CHECKED H.D KOGA 11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
ADDR PROCESSOR TEST CONDITION SELECTION AND MICRO-LEVEL INTERRUPT VECTOR FILE
SCALE
SIZE B
DRAWING NO. 75000539
DO NOT SCALE DRAWING
SHEET 8 OF 27
504108 C

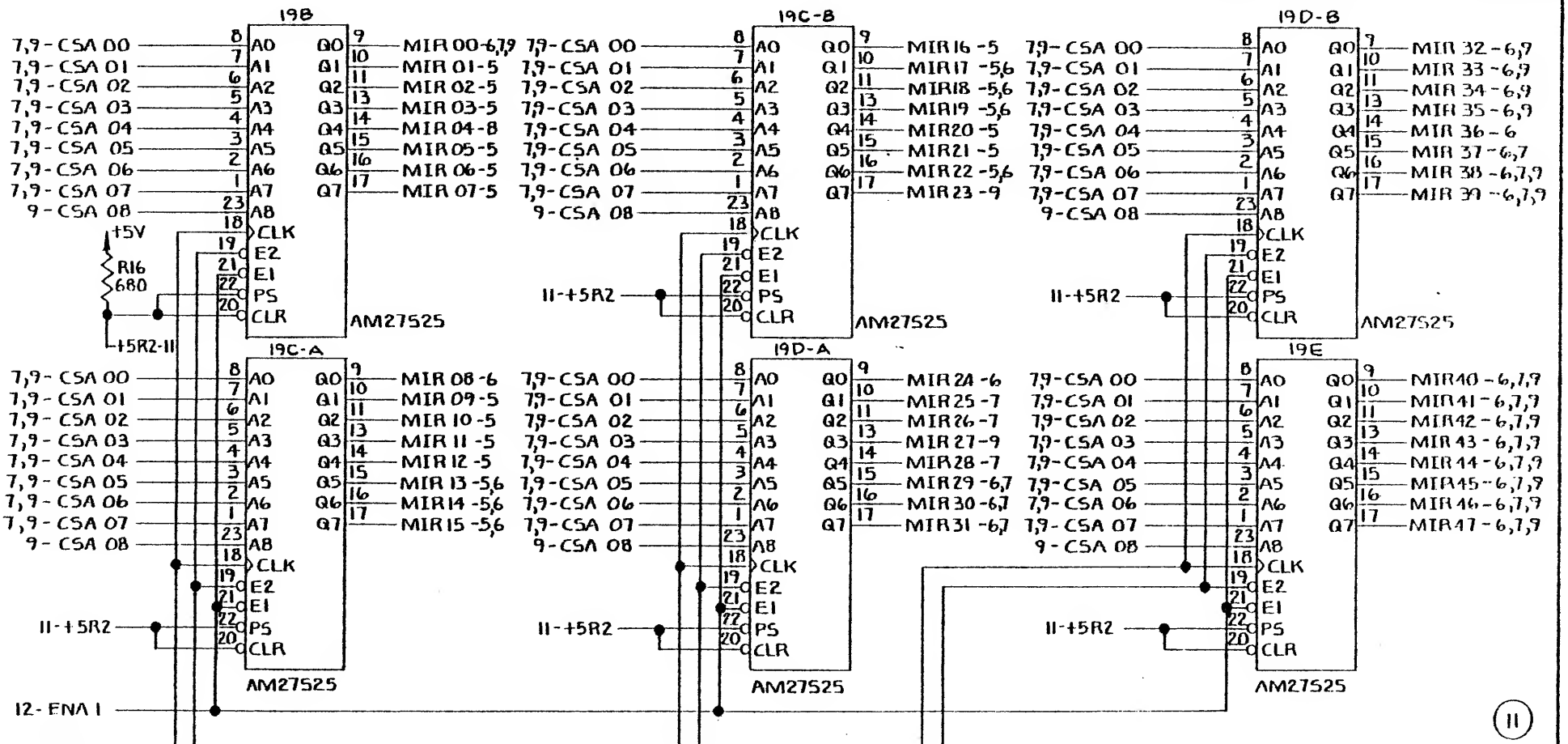

REVISIONS
LTR
DESCRIPTION
DATE
APPROVED
INT-9
26B
74LS14
INT-9
26E
74LS00
PIOVCTR-9
+5V
R27
680
27D
74LS374
4-RESET
3-PIO
10-CLK
S RESET-9
26D
74148
11,12-MIR04
+5V
R31
680
IVSELB-7
IVSELA-7
25D
74LS138
10-CLK
10-OSC
27E
74LS32
VCTR-7
28D
28D
28E
28E
13-800 CHAR
3-SVC
16-RDSI
13-WTS
74LS74
74LS74
74LS74
74LS74
B
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
APPROVALS
DATE
DRAWN L. FRANZKE 10-28-80
CHECKED HD KOGA 11-10-80
western peripherals™
TUSTIN, CALIFORNIA
MICRO-LEVEL INTERRUPT CTRL.
SCALE
SIZE B
DRAWING NO. 75000539
DO NOT SCALE DRAWING
SHEET 9 OF 27
504108 C



TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC. ± ANGLES ±		western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS	DATE	ADDR PROCESSOR	
DRAWN L. FRANZKE	10-28-80		
CHECKED H D KOGA	11-10-80	SCALE	SIZE B — DRAWING NO. 75000539
		DO NOT SCALE DRAWING	SHEET 10 OF 27

501108 C


REVISIONS
LTR
DESCRIPTION
DATE
APPROVED
+5V
R30
470K
R29
470K
C36
.1
C35
.01
12E
NE555
TIMER-7
+5V
R40
680
+5V
R43
680
E68 EXT STOP
E65 LOGIC GND
E66 EXT CLK
8
22G
74265
TESTCLK-6
MIRCLK-11,12
23G
74574
CLK-6,7,8,9,17,19
CLK-5,6,7,8
CLKFF-6
+5V
14 Y2
OSC
10.0 MHZ
8
7
OSC-10,13
OSC-5,8
6-WBUF
10-OSC
27C
74LS08
6-RBUF
21F
21G
PL
EO
TTS
TOS
IES
OES
CPSI
CPSO
TOP
MR
D5
D0
D1
D2
D3
Q0
Q1
Q2
Q3
IRF
ORF
Q5
9423
DBUS 00-5,7,14,15
DBUS 01-5,7,14,15
DBUS 02-5,7,14,15
DBUS 03-5,7,14,15
DBUS 04-5,7,14,15
DBUS 05-5,7,14,15
DBUS 06-5,7,14,15
DBUS 07-5,7,14,15
6-RBCLK
6-CLRFIFO
IRE-7
ORF-7
10
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
APPROVALS
DATE
DRAWN
L. FRANZKE 10-28-80
CHECKED
H.D. KOLA 11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
TIMER
CLOCK GENERATION
DATA BUFFER
SCALE
SIZE
B
DRAWING NO.
75000539
DO NOT SCALE DRAWING
SHEET 11 OF 27
504108 C



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

TOLERANCES UNLESS OTHERWISE SPECIFIED	
FRACTIONS ±	DEC. ±
ANGLES ±	

APPROVALS	DATE
DRAWN L. FRANZKE	10-28-80
CHECKED HD KOGA	11-10-80

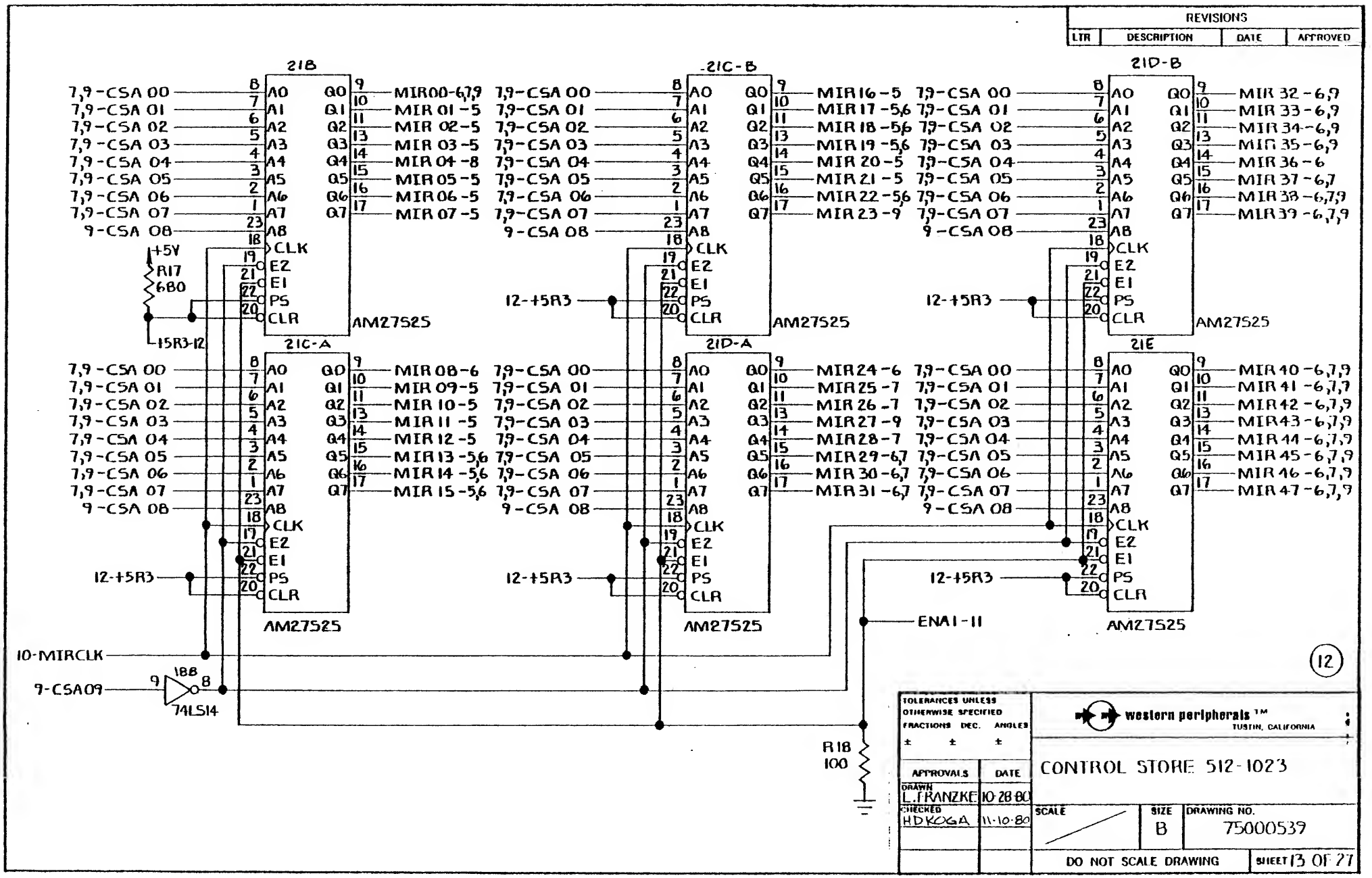
western peripherals ™ TUSTIN, CALIFORNIA

CONTROL STORE 0-511

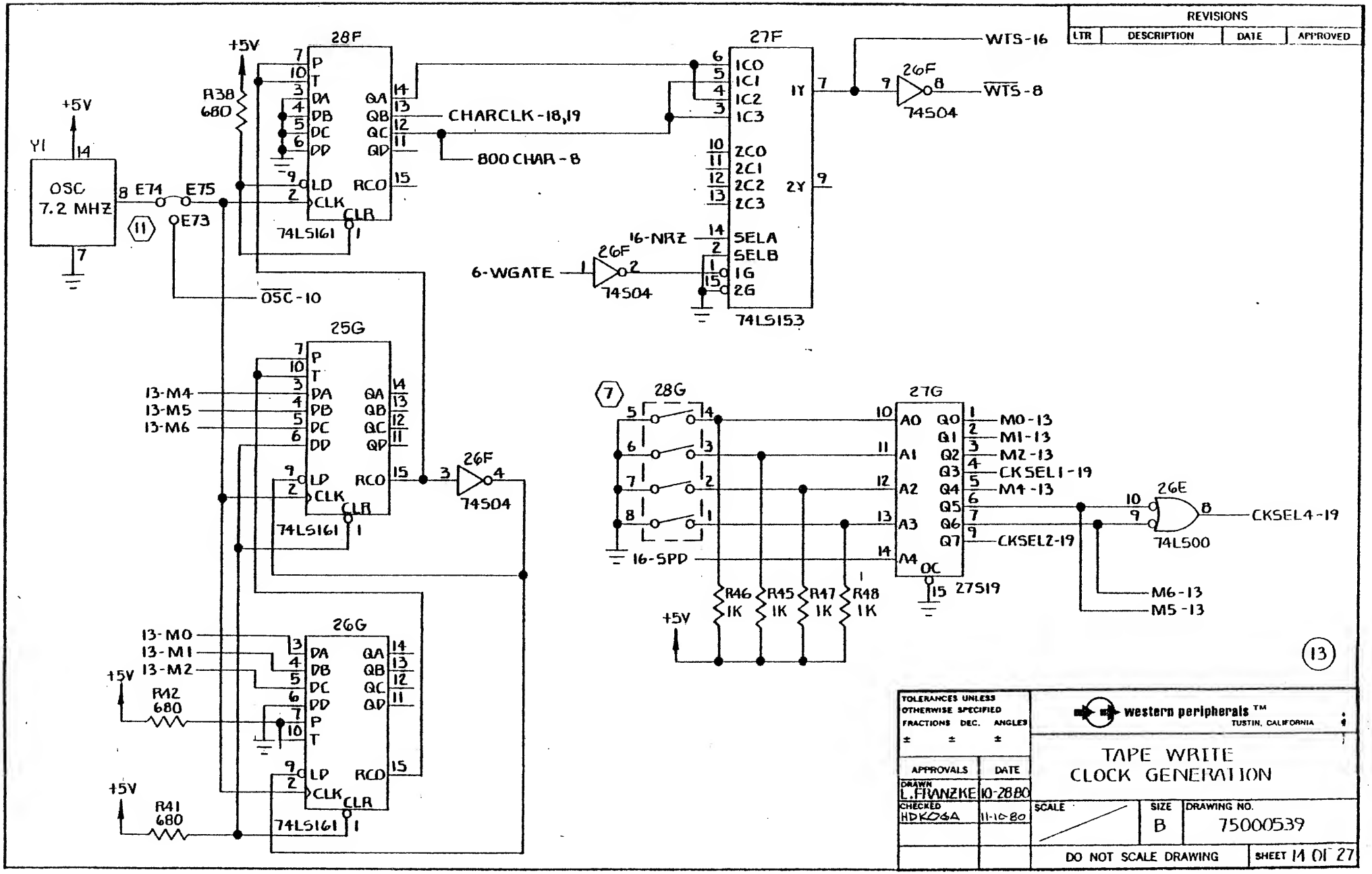
SCALE	SIZE	DRAWING NO.
	B	75000539

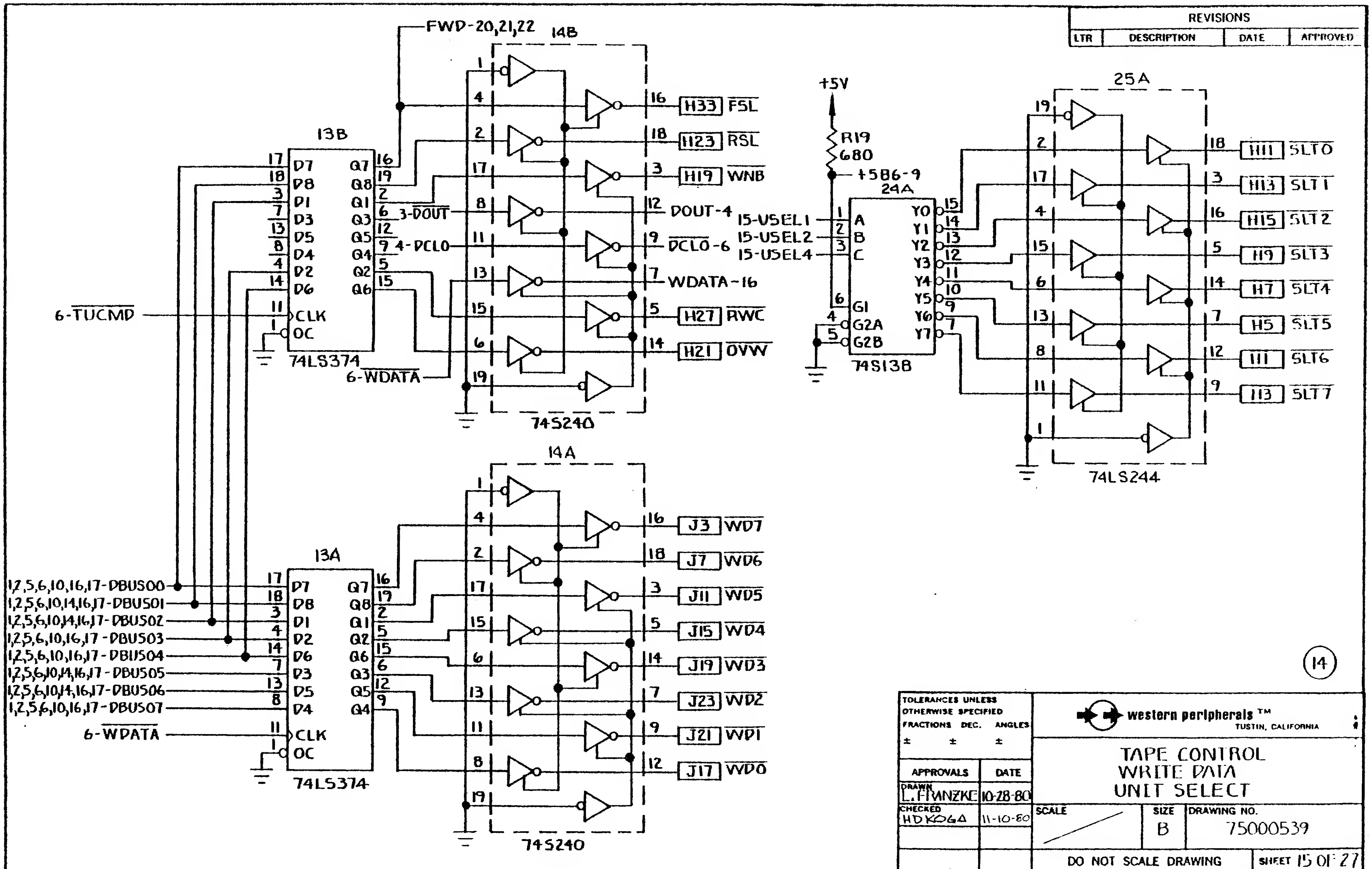
DO NOT SCALE DRAWING — SHEET 12 OF 27

501108 C


REVISIONS
LTR | DESCRIPTION | DATE | APPROVED
21B
21C-A
21C-B
21D-A
21D-B
21E
AM27525
7,9-CSA 00
7,9-CSA 01
7,9-CSA 02
7,9-CSA 03
7,9-CSA 04
7,9-CSA 05
7,9-CSA 06
7,9-CSA 07
9-CSA 08
MIR00-6,7,9
MIR 01-5
MIR 02-5
MIR 03-5
MIR 04-8
MIR 05-5
MIR 06-5
MIR 07-5
MIR 08-6
MIR 09-5
MIR 10-5
MIR 11-5
MIR 12-5
MIR 13-5,6
MIR 14-5,6
MIR 15-5,6
MIR 16-5
MIR 17-5,6
MIR 18-5,6
MIR 19-5,6
MIR 20-5
MIR 21-5
MIR 22-5,6
MIR 23-9
MIR 24-6
MIR 25-7
MIR 26-7
MIR 27-9
MIR 28-7
MIR 29-6,7
MIR 30-6,7
MIR 31-6,7
MIR 32-6,9
MIR 33-6,9
MIR 34-6,9
MIR 35-6,9
MIR 36-6
MIR 37-6,7
MIR 38-6,7,9
MIR 39-6,7,9
MIR 40-6,7,9
MIR 41-6,7,9
MIR 42-6,7,9
MIR 43-6,7,9
MIR 44-6,7,9
MIR 45-6,7,9
MIR 46-6,7,9
MIR 47-6,7,9
+5V
R17
680
15R3-12
12-15R3
10-MIRCLK
9-CSA09
74LS14
ENA1-11
R18
100
(12)
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
APPROVALS | DATE
DRAWN L.FRANZKE 10-28-80
CHECKED HDKOGA 11-10-80
western peripherals™
TUSTIN, CALIFORNIA
CONTROL STORE 512-1023
SCALE
SIZE B
DRAWING NO. 75000539
DO NOT SCALE DRAWING
SHEET 13 OF 27

504108 C


REVISIONS
LTR | DESCRIPTION | DATE | APPROVED
+5V
Y1
OSC
7.2 MHZ
E74
E75
E73
OSC-10
R38
680
28F
74LS161
CHARCLK-18,19
800 CHAR-8
27F
74LS153
WTS-16
WTS-8
26F
74504
16-NRZ
6-WGATE
25G
13-M4
13-M5
13-M6
26G
13-M0
13-M1
13-M2
R42
680
R41
680
28G
27G
27S19
16-SPD
R46 1K
R45 1K
R47 1K
R48 1K
M0-13
M1-13
M2-13
CKSEL1-19
M4-13
CKSEL2-19
CKSEL2-19
26E
74L500
M6-13
M5-13
13
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
APPROVALS DATE
DRAWN L. FRANZKE 10-28-80
CHECKED HDKOSA 11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
TAPE WRITE
CLOCK GENERATION
SCALE
SIZE B
DRAWING NO. 75000539
DO NOT SCALE DRAWING
SHEET 14 OF 27
504108 C



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

APPROVALS	DATE
DRAWN L. FRANZKE	10-28-80
CHECKED HD KOGA	11-10-80

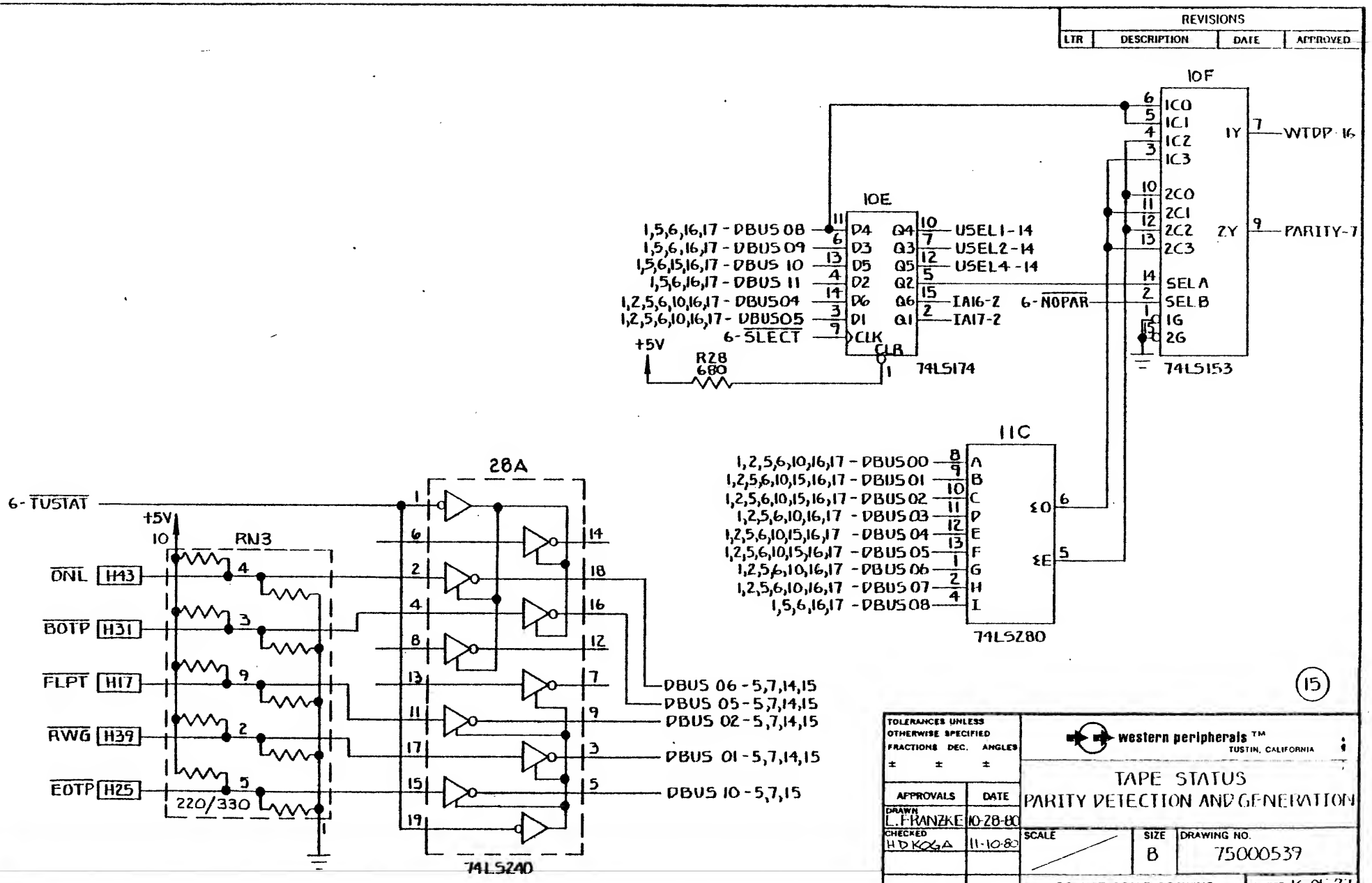
western peripherals ™ TUSTIN, CALIFORNIA

TAPE CONTROL WRITE DATA UNIT SELECT

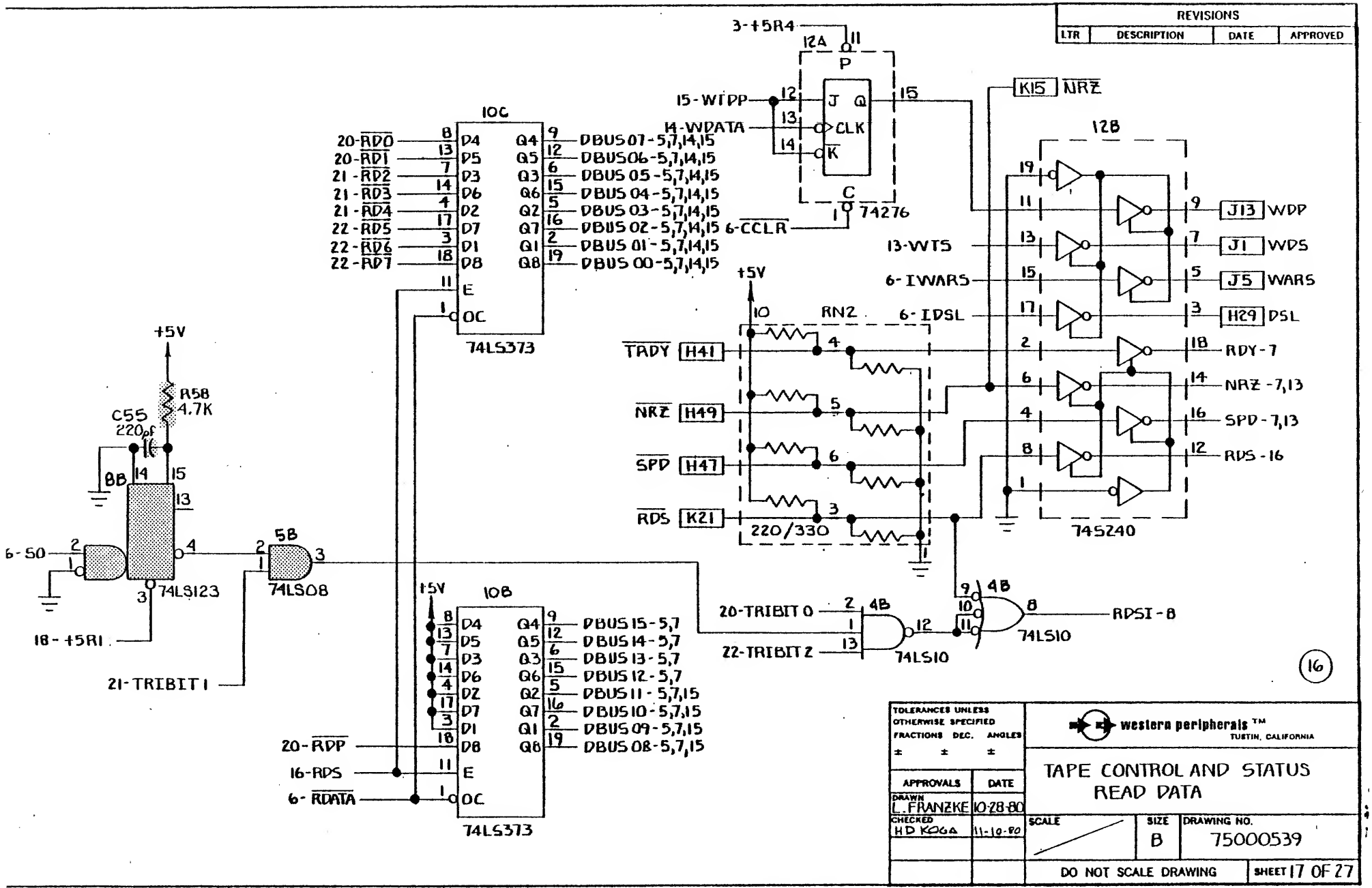
SCALE — SIZE B — DRAWING NO. 75000539

DO NOT SCALE DRAWING — SHEET 15 OF 27

504108 C

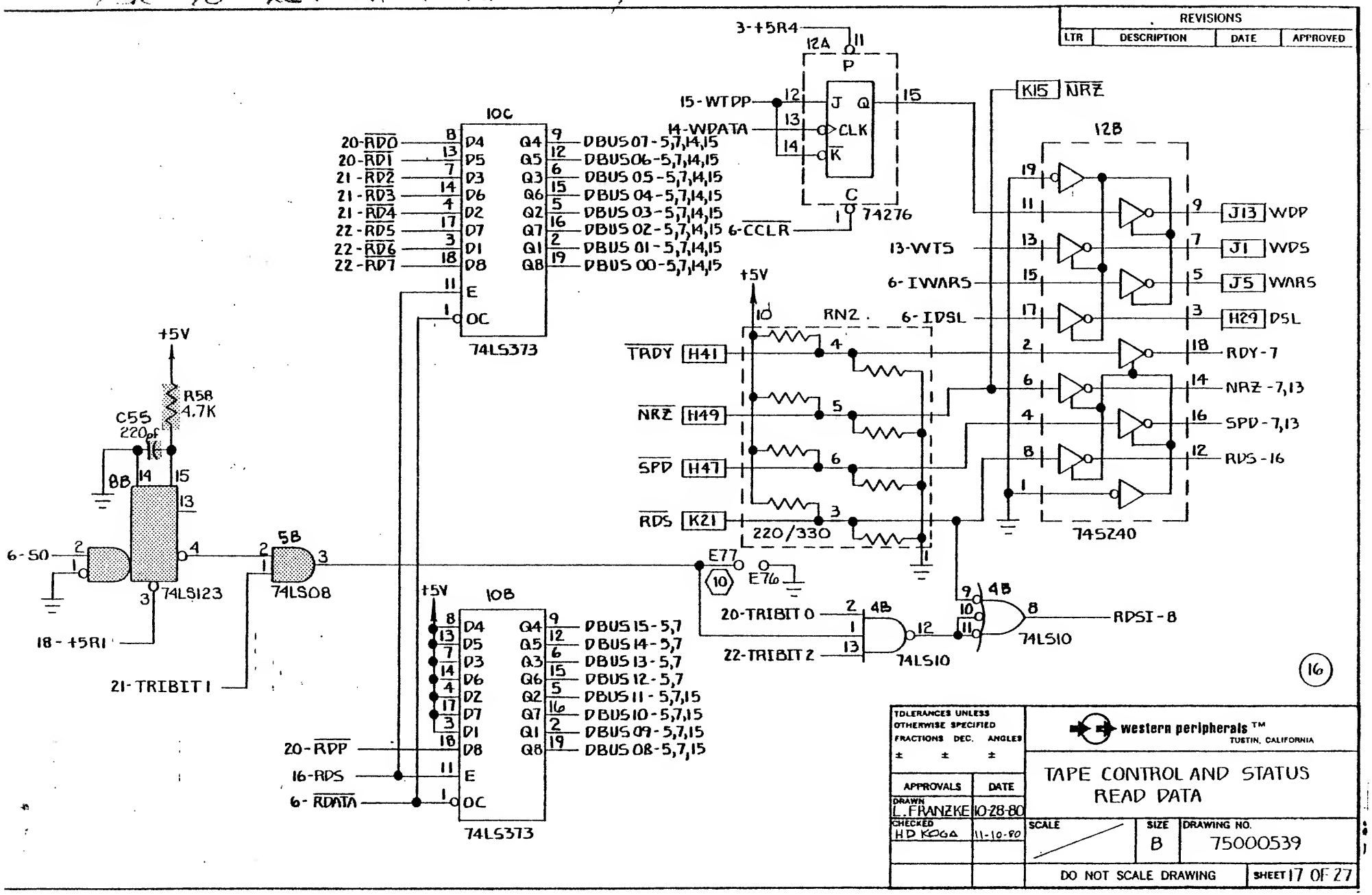

REVISIONS
LTR
DESCRIPTION
DATE
APPROVED
10F
ICO
IC1
IC2
IC3
1Y
WTDP-16
2CO
2C1
2C2
2C3
2Y
PARITY-7
SEL A
SEL B
1G
2G
74LS153
10E
1,5,6,16,17 - DBUS 08
1,5,6,16,17 - DBUS 09
1,5,6,15,16,17 - DBUS 10
1,5,6,16,17 - DBUS 11
1,2,5,6,10,16,17 - DBUS04
1,2,5,6,10,16,17 - DBUS05
6-SLECT
D4
D3
D5
D2
D6
D1
CLK
CLR
Q4
Q3
Q5
Q2
Q6
Q1
USEL1-14
USEL2-14
USEL4-14
IAI6-2
IAI7-2
+5V
R28
680
74LS174
6-NOPAR
11C
1,2,5,6,10,16,17 - DBUS00
1,2,5,6,10,15,16,17 - DBUS01
1,2,5,6,10,15,16,17 - DBUS02
1,2,5,6,10,16,17 - DBUS03
1,2,5,6,10,15,16,17 - DBUS04
1,2,5,6,10,15,16,17 - DBUS05
1,2,5,6,10,16,17 - DBUS06
1,2,5,6,10,16,17 - DBUS07
1,5,6,16,17 - DBUS08
A
B
C
D
E
F
G
H
I
ΣO
ΣE
74LS280
28A
6-TUSTAT
+5V
10
RN3
DNL H43
BOTP H31
FLPT H17
RWG H39
EOTP H25
220/330
74LS240
DBUS 06-5,7,14,15
DBUS 05-5,7,14,15
DBUS 02-5,7,14,15
DBUS 01-5,7,14,15
DBUS 10-5,7,15
15
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
APPROVALS DATE
DRAWN L. FRANZKE 10-28-80
CHECKED H D KOGA 11-10-80
western peripherals TM
TUSTIN, CALIFORNIA
TAPE STATUS
PARITY DETECTION AND GENERATION
SCALE
SIZE B
DRAWING NO. 75000539
DO NOT SCALE DRAWING
SHEET 16 OF 27

504108 C


REVISIONS
LTR
DESCRIPTION
DATE
APPROVED
3-+5R4
12A
P
15-WTPP
14-WDATA
6-CCLR
74276
10C
20-RD0
20-RD1
21-RD2
21-RD3
21-RD4
22-RD5
22-RD6
22-RD7
DBUS 07-5,7,14,15
DBUS 06-5,7,14,15
DBUS 05-5,7,14,15
DBUS 04-5,7,14,15
DBUS 03-5,7,14,15
DBUS 02-5,7,14,15
DBUS 01-5,7,14,15
DBUS 00-5,7,14,15
74LS373
+5V
R58
4.7K
C55
220pf
8B
74LS123
18-+5R1
6-S0
5B
74LS08
21-TRIBIT 1
10B
20-RDP
16-RDS
6-RDATA
DBUS 15-5,7
DBUS 14-5,7
DBUS 13-5,7
DBUS 12-5,7
DBUS 11-5,7,15
DBUS 10-5,7,15
DBUS 09-5,7,15
DBUS 08-5,7,15
74LS373
RN2
220/330
TADY H41
NRZ H49
SPD H47
RDS K21
K15 NRZ
12B
13-WTS
6-IWARS
6-IDSL
J13 WDP
J1 WDS
J5 WARS
H29 DSL
RDY-7
NRZ-7,13
SPD-7,13
RDS-16
74S240
20-TRIBIT 0
22-TRIBIT 2
4B
74LS10
RDSI-8
16
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
APPROVALS
DATE
DRAWN L. FRANZKE 10-28-80
CHECKED H D KOGA 11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
TAPE CONTROL AND STATUS
READ DATA
SCALE
SIZE B
DRAWING NO. 75000539
DO NOT SCALE DRAWING
SHEET 17 OF 27
REV "A" ARTWORK ONLY
504108 B

FOR "B" REV NETWORK ONLY

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

APPROVALS	DATE
DRAWN L. FRANZKE	10-28-80
CHECKED H D KOGA	11-10-80

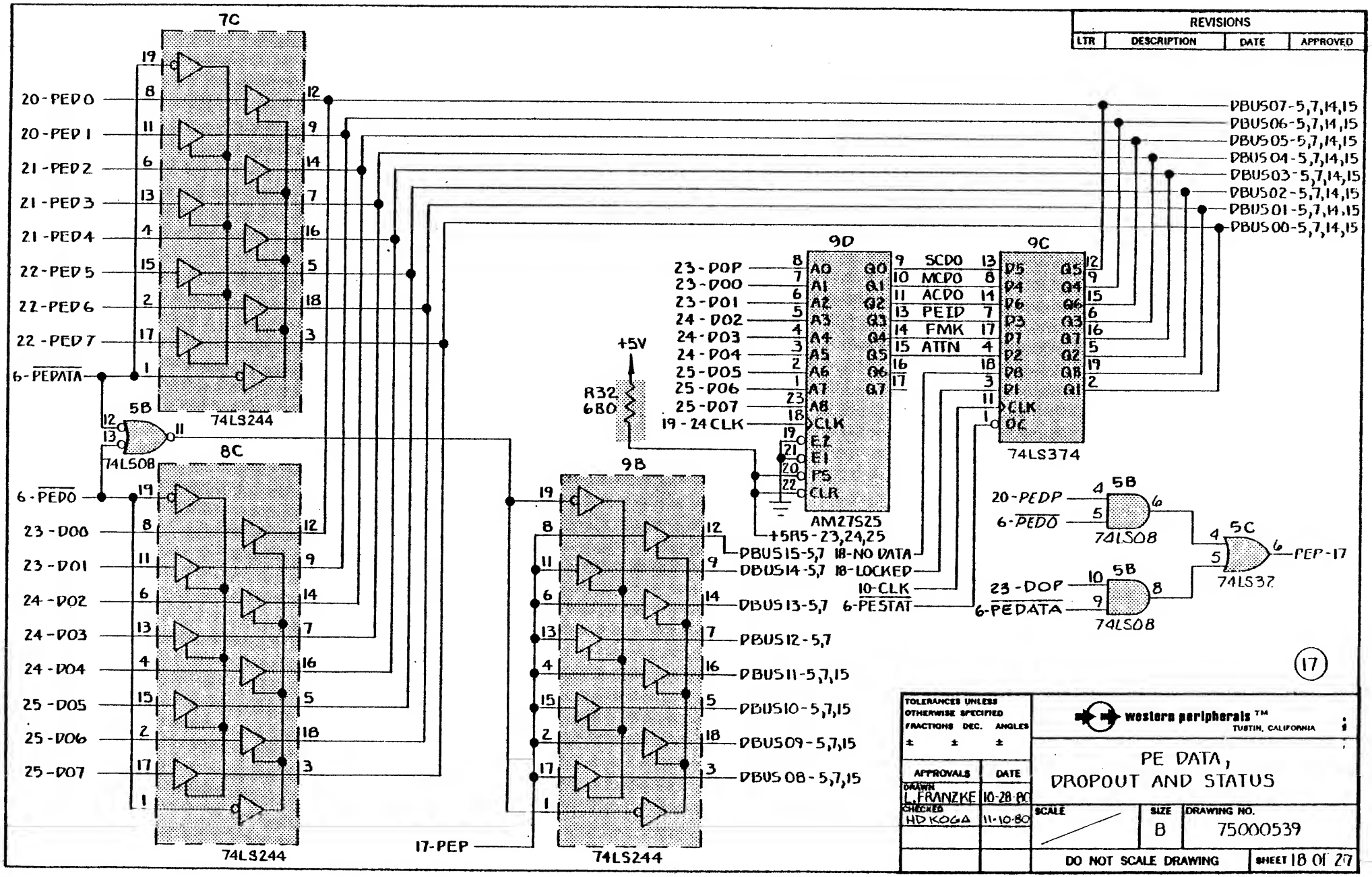
western peripherals ™ TUSTIN, CALIFORNIA

TAPE CONTROL AND STATUS READ DATA

SCALE	SIZE	DRAWING NO.
	B	75000539

DO NOT SCALE DRAWING — SHEET 17 OF 27

504108 C



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

APPROVALS	DATE
DRAWN L. FRANZKE	10-28-80
CHECKED HD KOGA	11-10-80

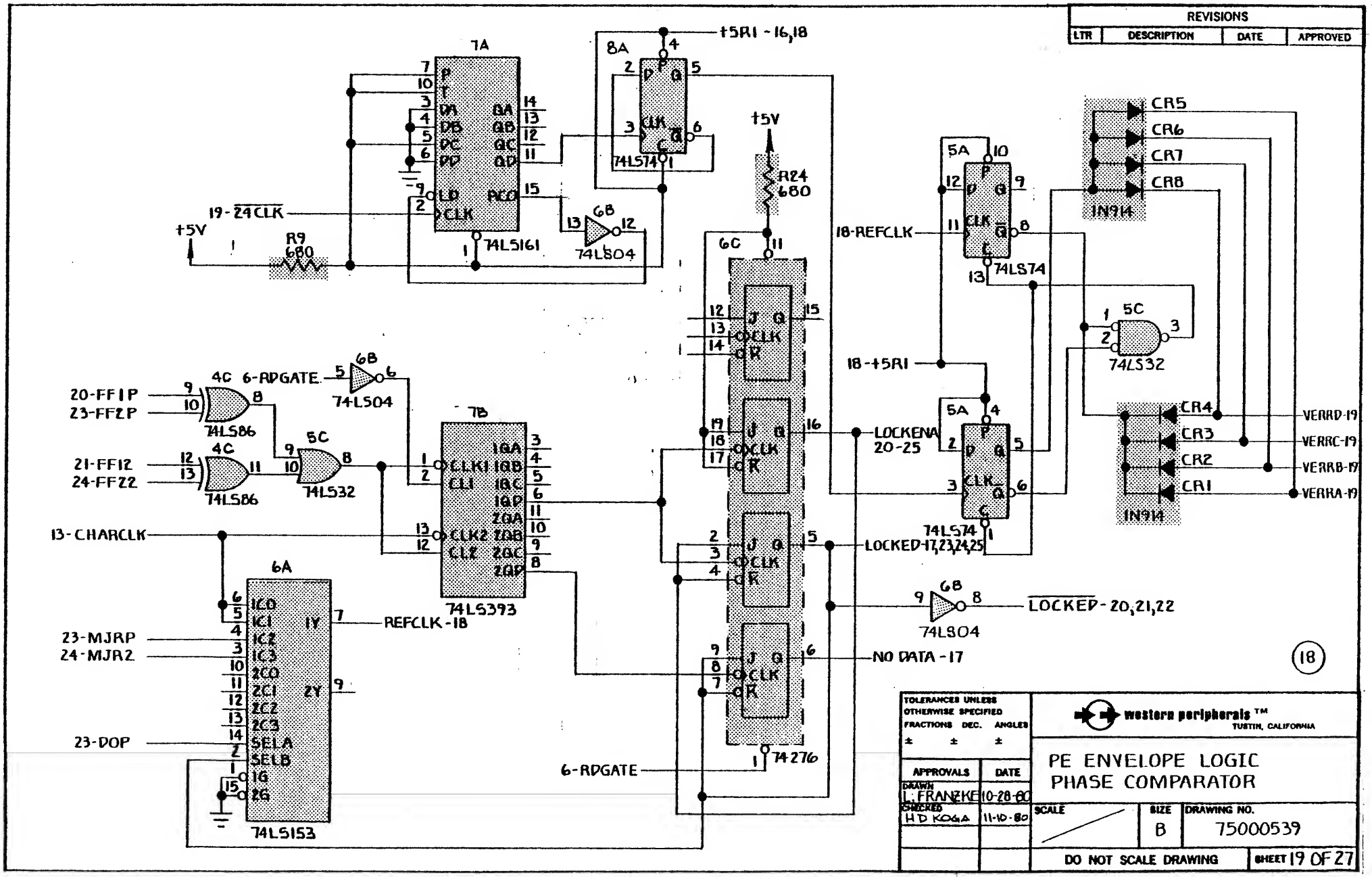
western peripherals ™ TUSTIN, CALIFORNIA

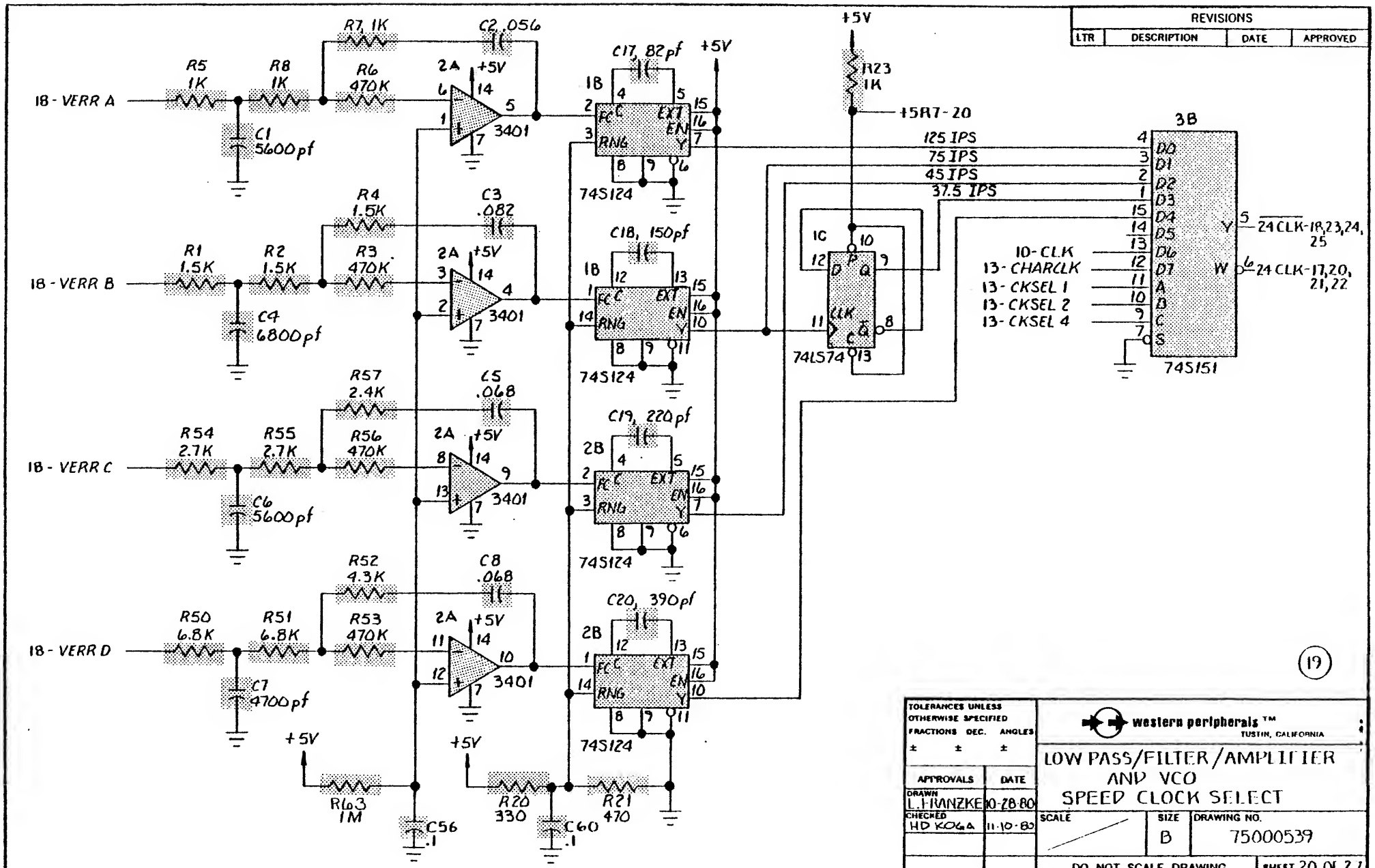
PE DATA, DROPOUT AND STATUS

SCALE	SIZE	DRAWING NO.
	B	75000539

DO NOT SCALE DRAWING — SHEET 18 OF 27

504108 C


REVISIONS
LTR | DESCRIPTION | DATE | APPROVED
+5R1 - 16,18
+5V
R24 680
R9 680
19-24CLK
18-REFCLK
18-+5R1
LOCKENA 20-25
LOCKED-17,23,24,25
LOCKED-20,21,22
NO DATA-17
6-RDGATE
REFCLK-18
13-CHARCLK
20-FF1P
23-FF2P
21-FF12
24-FF22
23-MJRP
24-MJR2
23-DOP
74LS161
74LS574
74LS804
74LS586
74LS532
74LS504
74LS393
74LS153
74276
IN914
CR1
CR2
CR3
CR4
CR5
CR6
CR7
CR8
VERRD-19
VERRC-19
VERRB-19
VERRA-19
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
APPROVALS DATE
DRAWN L. FRANZKE 10-28-80
CHECKED H D KOGA 11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
PE ENVELOPE LOGIC
PHASE COMPARATOR
SCALE
SIZE B
DRAWING NO. 75000539
DO NOT SCALE DRAWING
SHEET 19 OF 27
18
504108 C

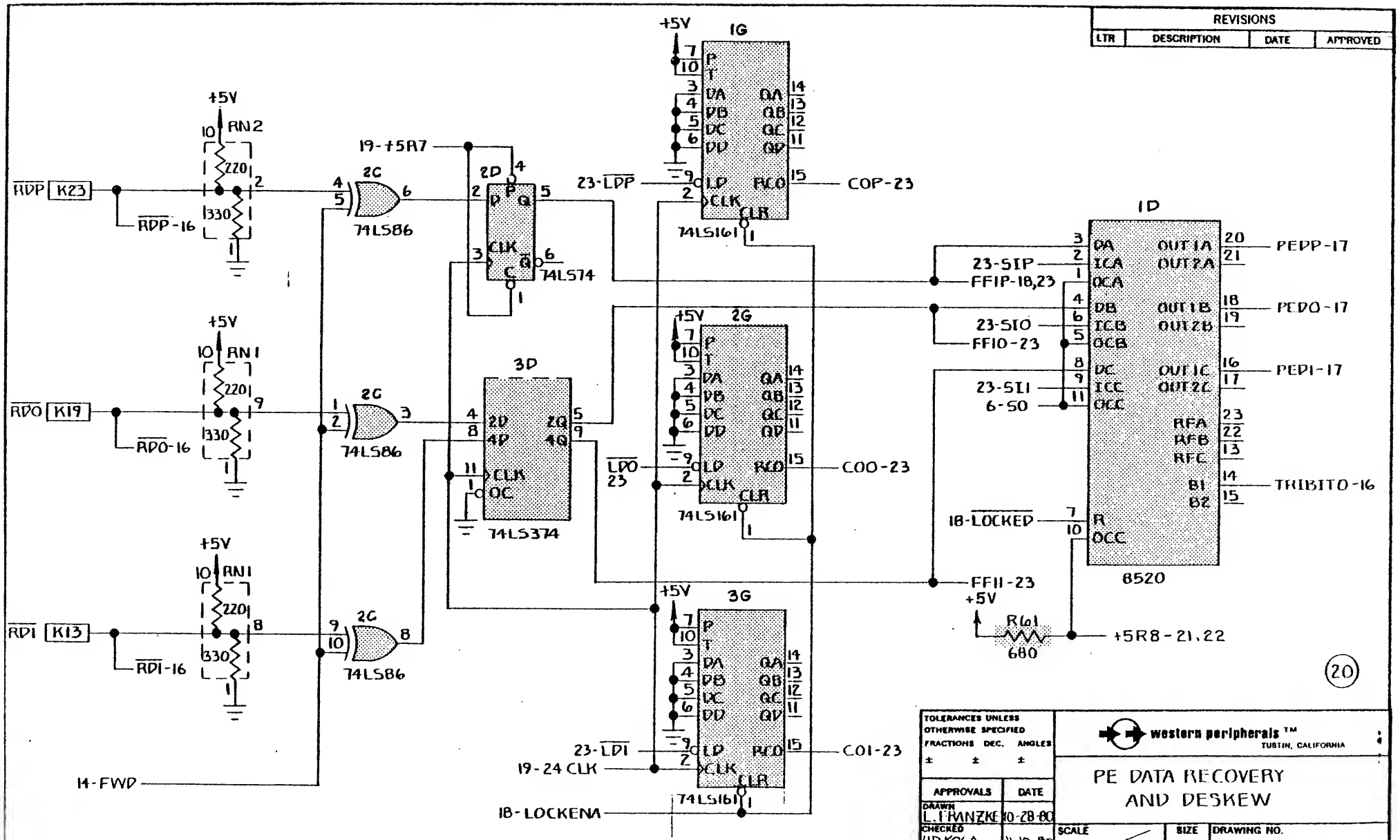


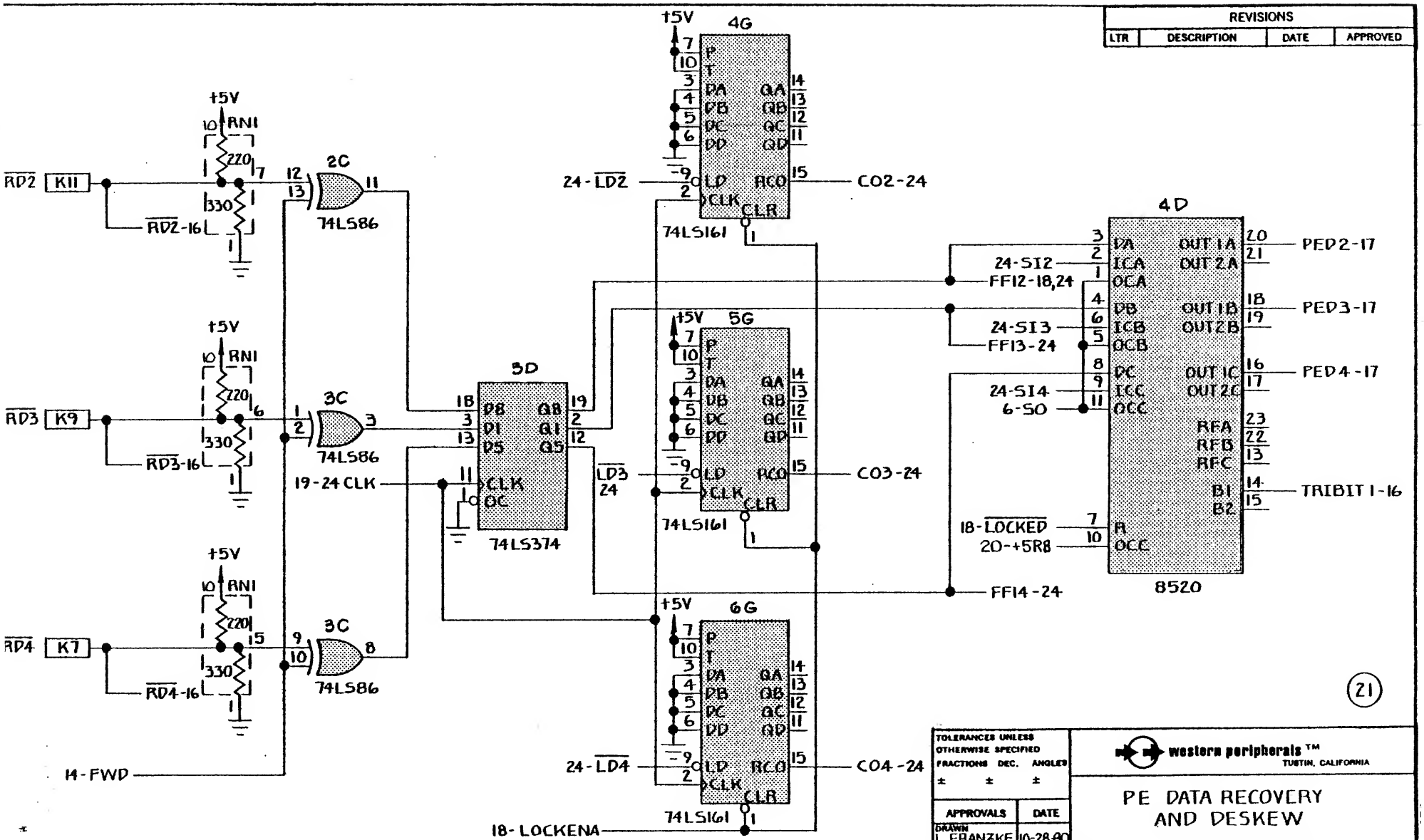
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

(19)

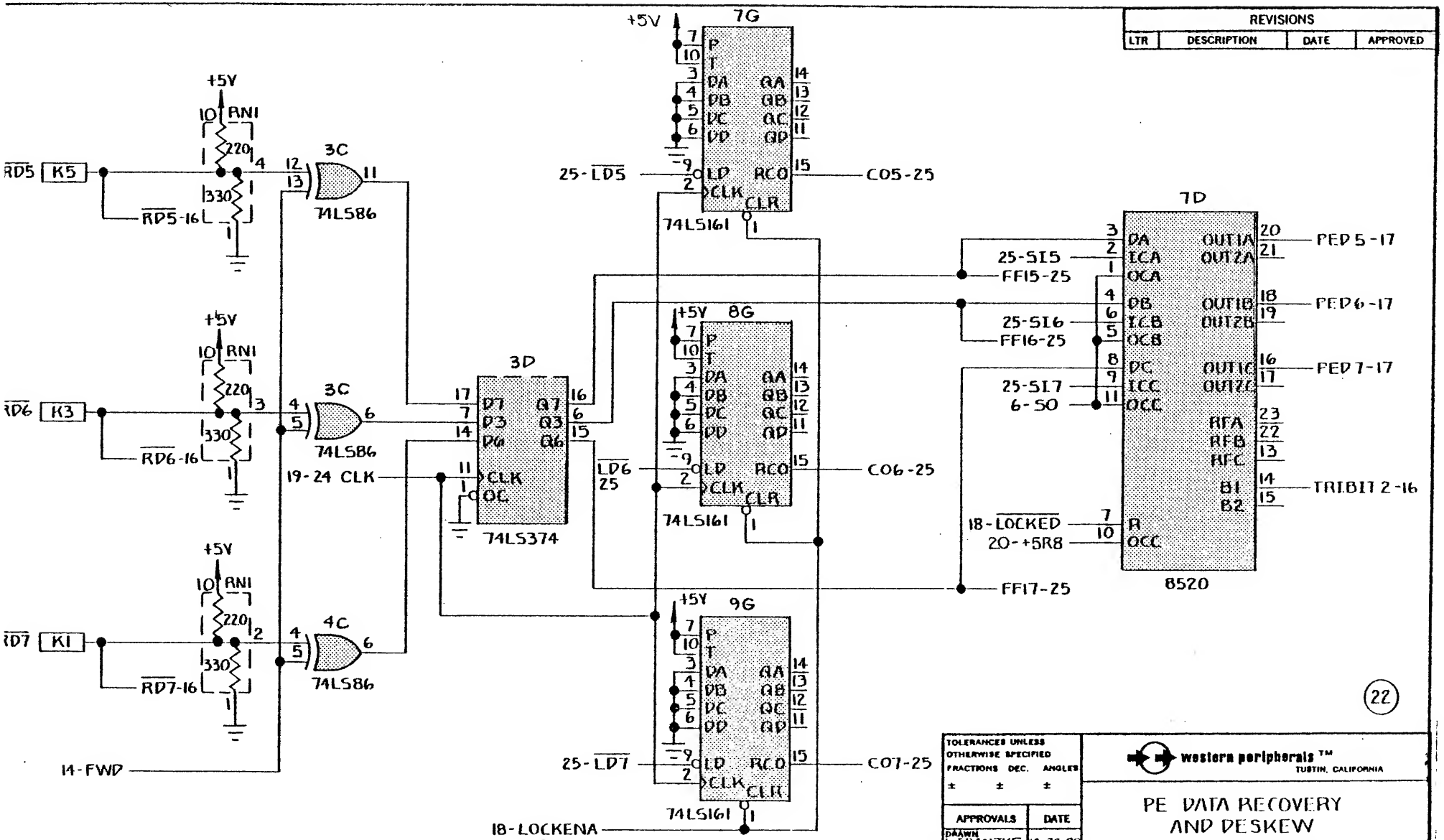
TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC. ± ANGLES ±		western peripherals™ TUSTIN, CALIFORNIA
APPROVALS	DATE	LOW PASS/FILTER/AMPLIFIER AND VCO SPEED CLOCK SELECT
DRAWN L. FRANZKE	10-28-80	
CHECKED HD KOGA	11-10-80	SCALE / SIZE B DRAWING NO. 75000539
DO NOT SCALE DRAWING		SHEET 20 OF 71

504108 C


REVISIONS
LTR
DESCRIPTION
DATE
APPROVED
+5V
RN2
220
330
RDP
K23
RDP-16
74LS86
2C
19-+5R7
2D
74LS74
23-LDP
1G
74LS161
COP-23
RN1
RDO
K19
RDO-16
3D
74LS374
2G
LDO
23
COO-23
RDI
K13
RDI-16
14-FWD
3G
23-LDI
19-24 CLK
COI-23
18-LOCKENA
1D
8520
23-SIP
FFIP-18,23
23-SIO
FFIO-23
23-SII
6-SO
FFII-23
18-LOCKED
PEPP-17
PEPO-17
PEPI-17
TRIBITO-16
R61
680
+5R8-21,22
20
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
APPROVALS
DATE
DRAWN
L. FRANZKE
10-28-80
CHECKED
HD KOGA
western peripherals ™
TUSTIN, CALIFORNIA
PE DATA RECOVERY AND DESKEW
SCALE
SIZE
B
DRAWING NO.
75000539
DO NOT SCALE DRAWING
SHEET 21 OF 27
504108 C

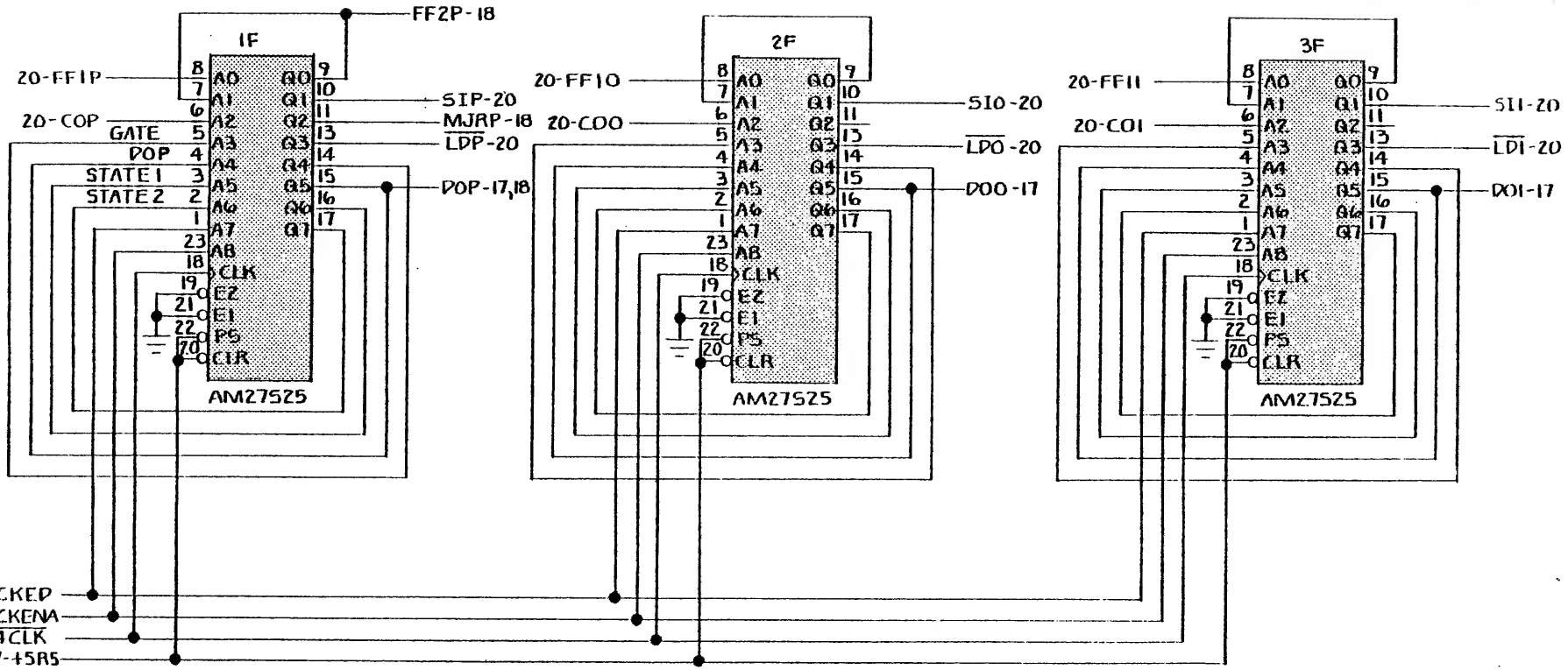

REVISIONS
LTR DESCRIPTION DATE APPROVED
+5V
RN1
220
330
RD2 K11
RD2-16
2C
74LS86
RD3 K9
RD3-16
3C
RD4 K7
RD4-16
14-FWD
19-24 CLK
5D
74LS374
4G
24-LD2
CO2-24
74LS161
5G
LD3 24
CO3-24
6G
24-LD4
CO4-24
18-LOCKENA
4D
24-SI2
FF12-18,24
24-SI3
FF13-24
24-SI4
6-SO
FF14-24
18-LOCKED
20-+5R8
8520
PED2-17
PED3-17
PED4-17
TRIBIT 1-16
21
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
APPROVALS DATE
DRAWN L. FRANZKE 10-28-80
CHECKED H.D KOCH 11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
PE DATA RECOVERY AND DESKEW
SCALE
SIZE B
DRAWING NO. 75000539
DO NOT SCALE DRAWING
SHEET 22 OF 27

504108 C


REVISIONS
LTR
DESCRIPTION
DATE
APPROVED
+5V
RNI
220
330
RD5
K5
RD5-16
3C
74LS86
RD6
K3
RD6-16
RD7
K1
RD7-16
4C
14-FWD
19-24 CLK
3D
74LS374
7G
25-LD5
74LS161
CO5-25
8G
LD6
25
CO6-25
9G
25-LD7
CO7-25
18-LOCKENA
7D
25-SI5
FF15-25
25-SI6
FF16-25
25-SI7
6-50
FF17-25
18-LOCKED
20-+5R8
8520
PED 5-17
PED 6-17
PED 7-17
TRIBIT 2-16
22
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
APPROVALS
DATE
DRAWN
L. FRANZKE
10-28-80
CHECKED
11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
PE DATA RECOVERY AND DESKEW
SCALE
SIZE
B
DRAWING NO.
75000539
DO NOT SCALE DRAWING
SHEET 23 OF 27

504108 C

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



(23)

TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

APPROVALS	DATE
DRAWN L. FRANZKE	10-28-80
CHECKED HD KOMA	11-10-80

western peripherals ™ TUSTIN, CALIFORNIA

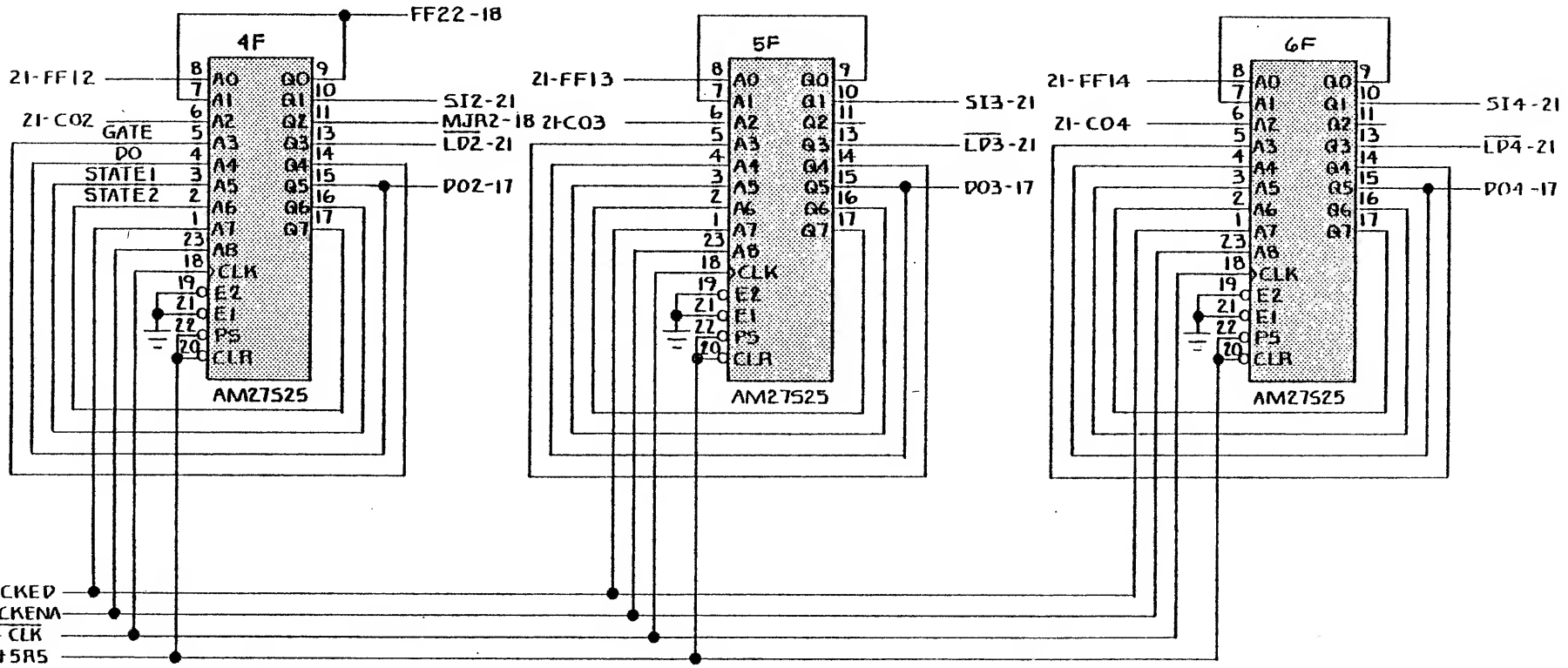
PE CHNL SEQ CTRL

SCALE	SIZE	DRAWING NO.
	B	75000539

DO NOT SCALE DRAWING — SHEET 21 OF 27

504108 C

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



(24)

TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

APPROVALS	DATE
DRAWN L. FRANZKE	10-28-80
CHECKED RD KOGA	11-10-80

western peripherals ™ TUSTIN, CALIFORNIA

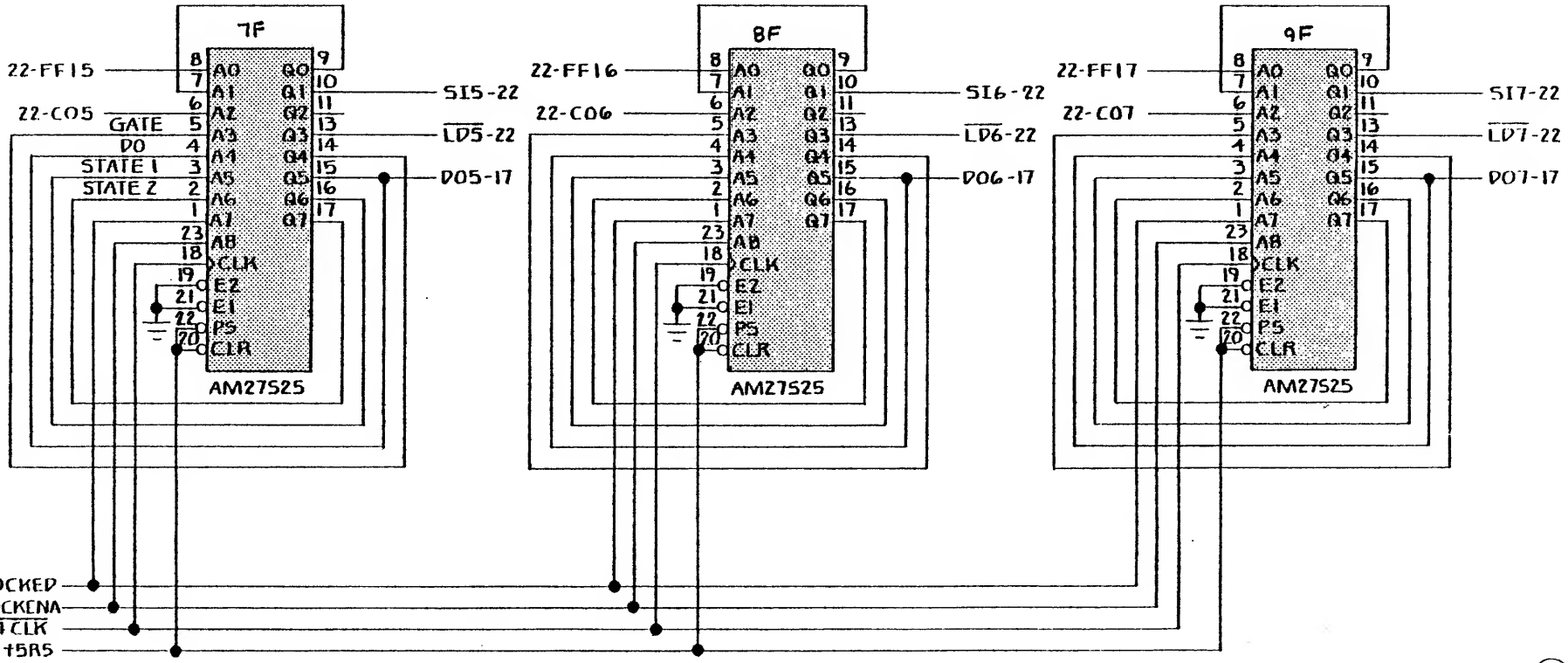
PE CHNL SEQ CTRL

SCALE	SIZE	DRAWING NO.
	B	75000539

DO NOT SCALE DRAWING — SHEET 25 OF 27

504108 C

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



(25)

TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

APPROVALS	DATE
DRAWN L FRANZKE	10-28-80
CHECKED HD KOGA	11-10-80

western peripherals ™ TUSTIN, CALIFORNIA

PE CHNL SEQ CTRL

SCALE	SIZE	DRAWING NO.
	B	75000539

DO NOT SCALE DRAWING — SHEET 26 OF 27

504108 C

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

(4) DEVICE ADDRESS
STD ADDR 772520_8

ADDR BIT	ADDR RANGE	E JUMPERS	STD ADDR	INSTALLED JUMPERS
17	1		1	
16	1		1	
15	1		1	
14	1		1	
13	1		1	
12	1		1	
11	0/1	28-20	0	X
10	0/1	27-19	1	
9	0/1	26-18	0	X
8	0/1	25-17	1	
7	0/1	24-16	0	X
6	0/1	23-15	1	
5	0/1	22-14	0	X
4	0/1	21-13	1	
3	X		X	
2	X		X	
1	X		X	
0	X		X	

INSTALL JUMPERS FOR "Ø's" IN DESIRED ADDR

(11) OSCILLATOR JUMPERS

OPERATION	E JUMPERS
TEST FIXTURE	E73 → E75
NORMAL	E74 → E75

(6) INTERRUPT PRIORITY LEVEL

BR4	BR5	BR6	BR7
E41 → E53	E43 → E55	E45 → E57	E47 → E59
E42 → E54	E44 → E56	E46 → E58	E48 → E60
E49 → E61	E50 → E62	E51 → E63	E52 → E64
E55 → E56	E53 → E54	E53 → E54	E53 → E54
E57 → E58	E57 → E58	E55 → E56	E55 → E56
E59 → E60	E59 → E60	E59 → E60	E57 → E58

(5) INTERRUPT VECTOR
STD VECTOR 224_8

VCTR BIT	E JUMPERS	STD VCTR	INSTALLED JUMPERS
7	40-34	1	
6	39-33	0	X
5	38-32	0	X
4	37-31	1	
3	36-30	0	X
2	35-29	1	
1		0	
0		0	

INSTALL JUMPERS FOR "Ø's" IN DESIRED VECTOR

TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±

APPROVALS	DATE
DRAWN C. Arada	12 15-80
CHECKED	

western peripherals ™
TUSTIN, CALIFORNIA

SCHEMATIC
TC-131 TAPE CONTROLLER

SCALE	SIZE	DRAWING NO.
	B	75000539

DO NOT SCALE DRAWING — SHEET 27 OF 27

50410B C

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	RELEASE	1-19-81	[illegible]
Δ	RECORD CHG Pg 20 21 22	7-17-81	[illegible]

CONTROL A

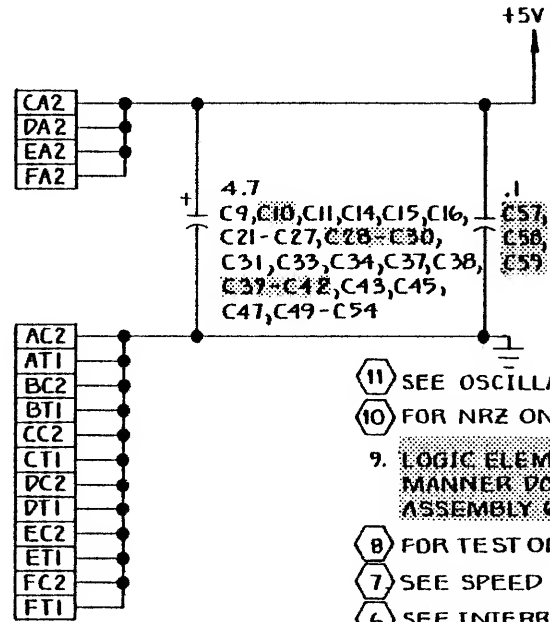
	H		
SLT6	1	2	GND
SLT7	3	4	GND
SLT5	5	6	GND
SLT4	7	8	GND
SLT3	9	10	GND
SLT0	11	12	GND
SLT1	13	14	GND
SLT2	15	16	GND
FLPT	17	18	GND
WNB	19	20	GND
OVW	21	22	GND
RSL	23	24	GND
EOTP	25	26	GND
RWC	27	28	GND
DSL	29	30	GND
BOTP	31	32	GND
FSL	33	34	GND
+5V	35	36	GND
+5V	37	38	GND
RWG	39	40	GND
TRDY	41	42	GND
ONL	43	44	GND
	45	46	GND
SPD	47	48	GND
NRZ	49	50	GND

WRITE B1

	J		
WDS	1	2	GND
WD7	3	4	GND
WARS	5	6	GND
WD6	7	8	GND
	9	10	GND
WD5	11	12	GND
WDP	13	14	GND
WD4	15	16	GND
WD0	17	18	GND
WD3	19	20	GND
WD1	21	22	GND
WD2	23	24	GND
+5V	25	26	GND

READ B2

	K		
RD7	1	2	GND
RD6	3	4	GND
RD5	5	6	GND
RD4	7	8	GND
RD3	9	10	GND
RD2	11	12	GND
RD1	13	14	GND
NRZ	15	16	GND
	17	18	GND
RD0	19	20	GND
RDS	21	22	GND
RDP	23	24	GND
	25	26	GND



(7) SPEED SETTING

TAPE CTRL CBL SWA-4

SW POS G28	125 / 75	125 / 45	125 / 37.5	125 / 25	75 / 45	75 / 37.5	75 / 25	45 / 37.5	45 / 25	37.5 / 25	SELB / SELA
1	C	C	C	C	C	C	C	O	O	O	
2	C	C	C	C	O	O	O	C	C	O	
3	C	C	O	O	C	O	O	C	O	C	
4	C	O	C	O	O	C	O	O	C	C	

C = ON
O = OFF

LAST DESIGNATION USED	
RESISTOR	R65
CAPACITOR	C60
DIODE	CR8
OSCILLATOR	Y2
LIGHT EMITTING DIODE	LED5
RESISTOR NETWORK	RN5

(11) SEE OSCILLATOR JUMPER TABLE.

(10) FOR NRZ ONLY OPERATION.

9. LOGIC ELEMENTS SHADED IN THIS MANNER DO NOT EXIST ON THE TC 131N ASSEMBLY 60000890 (NRZ ONLY).

(8) FOR TEST ONLY

(7) SEE SPEED SETTING TABLE.

(6) SEE INTERRUPT PRIORITY LEVEL TABLE.

(5) SEE INTERRUPT VECTOR TABLE.

(4) SEE DEVICE ADDRESS TABLE

3. REFERENCE ASSY 60000841

2. CAPACITOR VALUES ARE IN MICROFARADS.

1. RESISTANCE VALUES ARE IN OHMS.

NOTES: UNLESS OTHERWISE SPECIFIED

TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

APPROVALS	DATE
DRAWN L. FRANZKE	10-28-80
CHECKED HDJKOGA	11-10-80
[illegible]	11-10-80

western peripherals ™ TUSTIN, CALIFORNIA

SCHEMATIC
TC-131 TAPE CONTROLLER

SCALE	SIZE	DRAWING NO.
	B	75000752

DO NOT SCALE DRAWING | SHEET 1 OF 27

504108 C

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

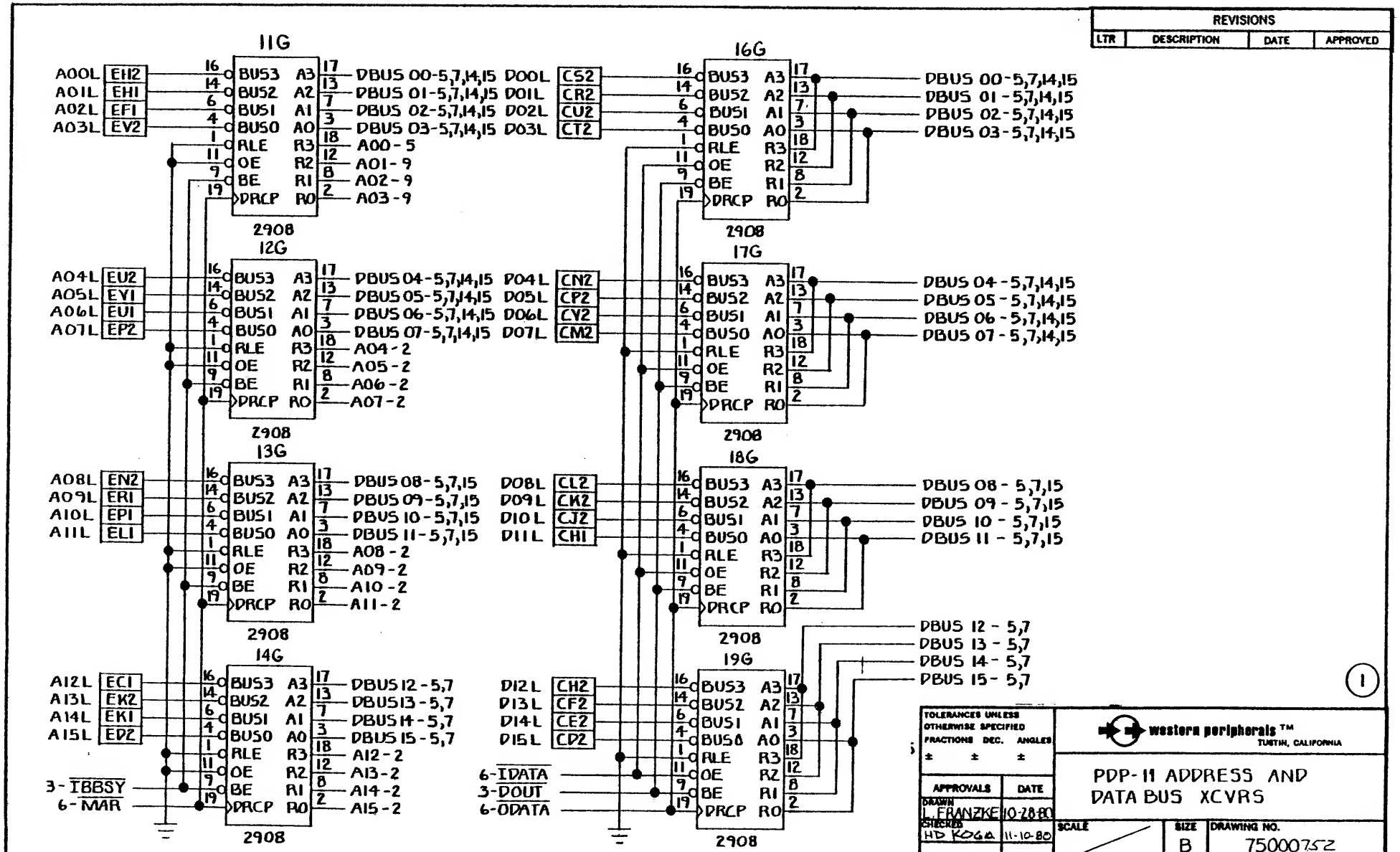
IBM PACK	REMOTE DENSITY SELECT
1. STANDARD - Bit 10 in MTRD	1. STANDARD - Drive Density Switch
2. OPTION 1 - Use of Drive Select-Bit 10 in MTC	2. OPTION 1 - Use of Drive Select-Bit 10 in MTC
3. OPTION 2 - Customer installed jumper or remote switch	

When using OPTION 1 either IBM Pack OR Remote Density Select can be opted, NOT both. In order for a customer to have both options, the following are the different combinations.

IBM PACK	REMOTE DENSITY SELECT
1. Standard	Standard and/or Option 1
2. Option 1	Standard
3. Option 2	Standard and/or Option 1

IBM PACK	REMOTE DENSITY SELECT	JUMPERS
Standard	Standard	E82 to E83, E84 to E85
Standard	Option 1	E83 to E85, E82 to E84
Option 1	Standard	E83 to E85, E84 to E85, E80 to E81
Option 2	Standard	E82 to E83, E84 to E85, E78 to E79
Option 2	Option 1	E83 to E85, E82 to E84, E78 to E79

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC ± ANGLES ±		western peripherals ™ TUSTIN, CALIFORNIA	
APPROVALS	DATE	OPTIONS TC131 TAPE CONTROLLER	
DRAWN	6.17.81		
CHECKED		SCALE /	SIZE B / DRAWING NO. 75000752
		DO NOT SCALE DRAWING	SHEET 1A-27



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

APPROVALS	DATE
DRAWN L. FRANZKE	10-28-80
CHECKED HD KOGA	11-10-80

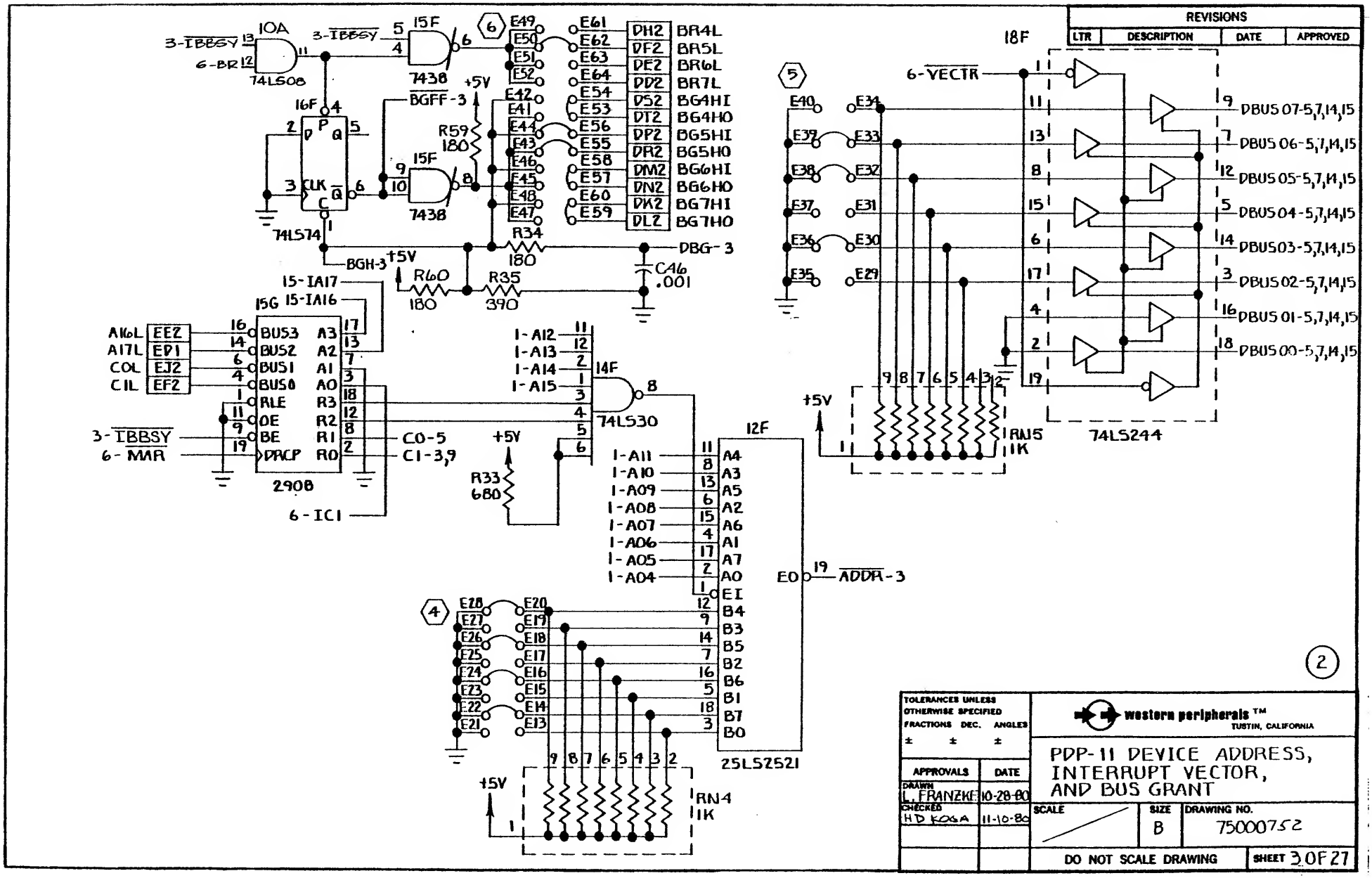
western peripherals™ TUSTIN, CALIFORNIA

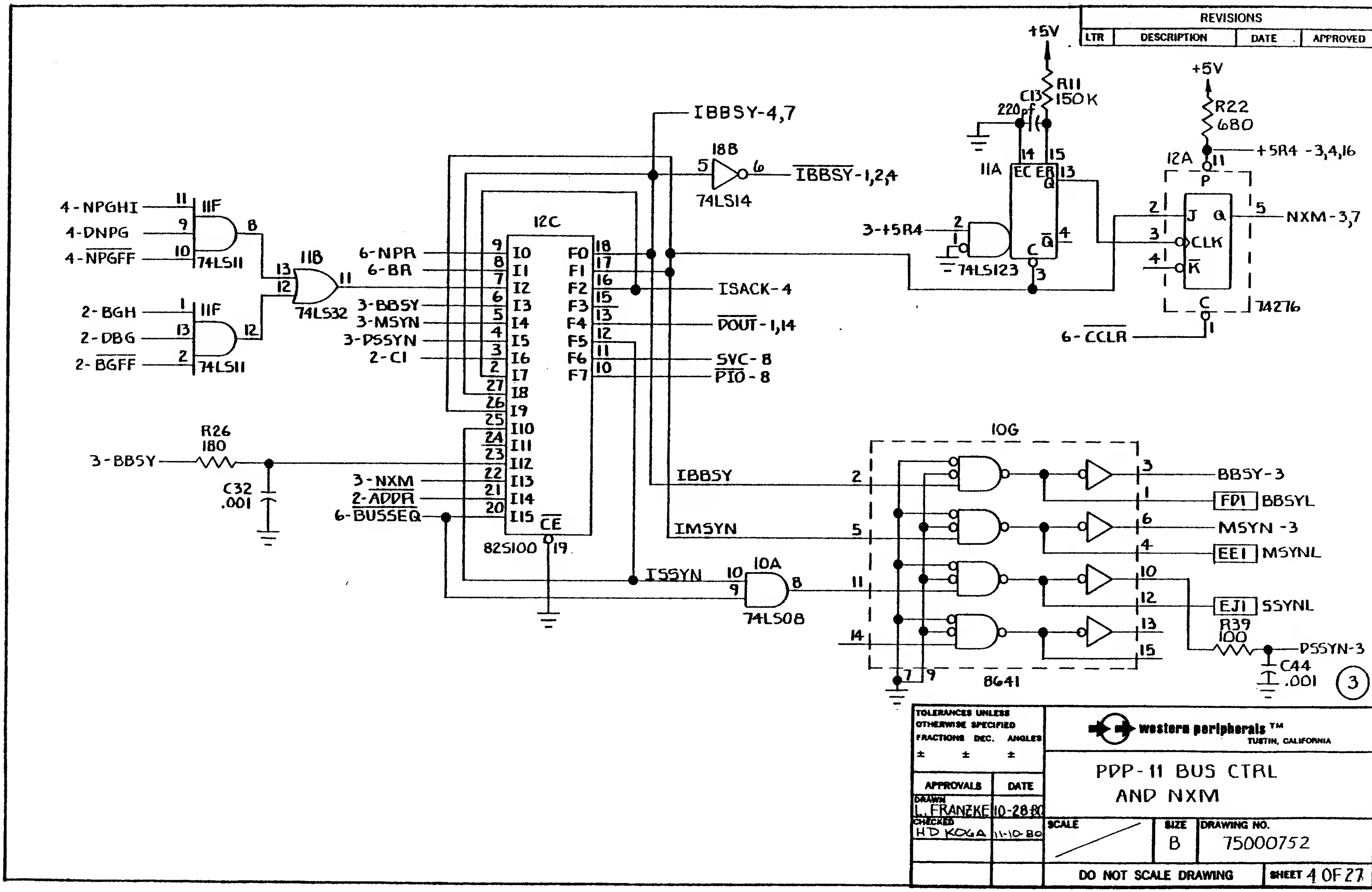
PDP-11 ADDRESS AND DATA BUS XCVRS

SCALE	SIZE	DRAWING NO.
	B	75000752

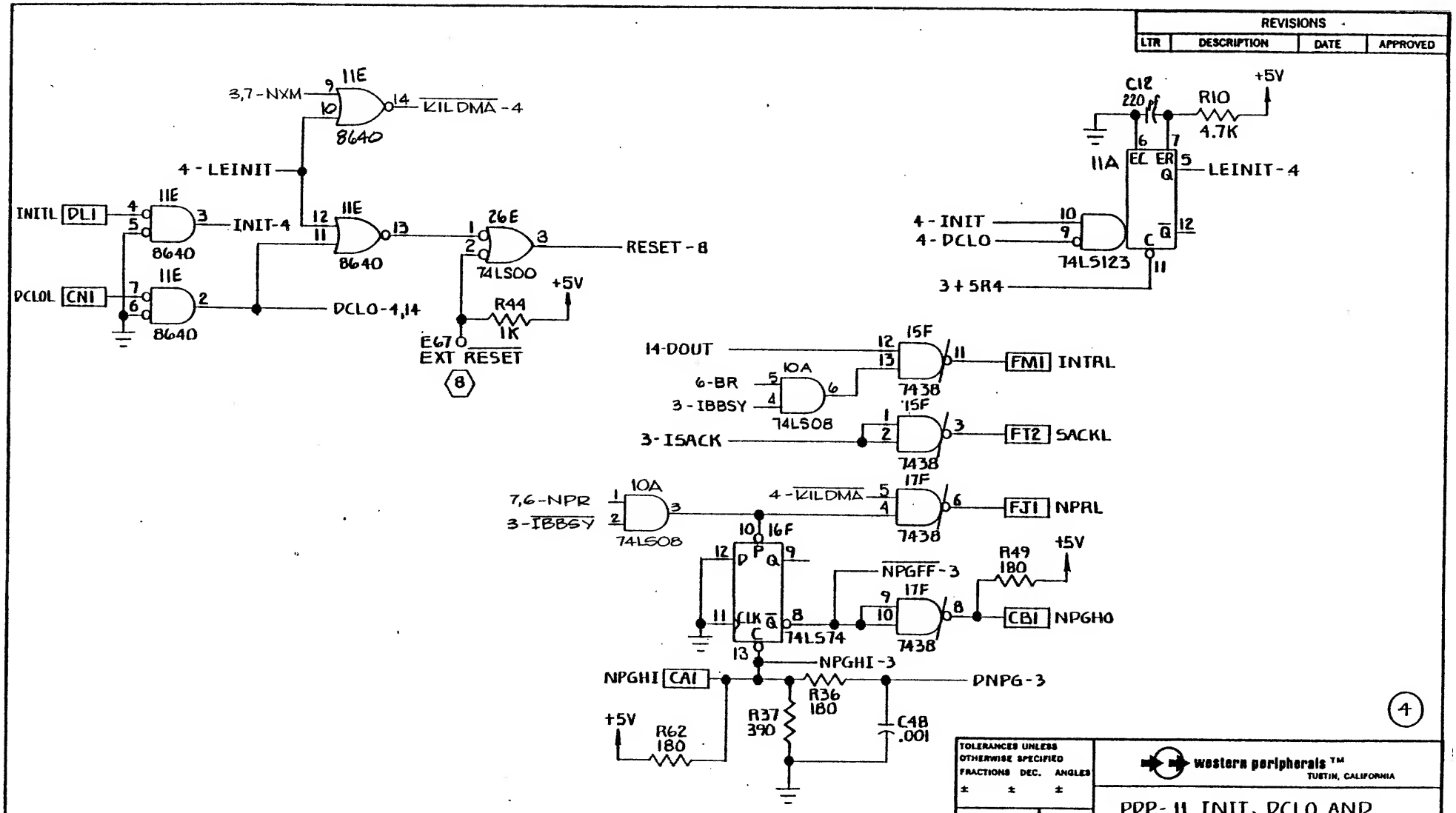
DO NOT SCALE DRAWING — SHEET 2 OF 27

504108 C


REVISIONS
LTR DESCRIPTION DATE APPROVED
western peripherals TM
TUSTIN, CALIFORNIA
PDP-11 DEVICE ADDRESS, INTERRUPT VECTOR, AND BUS GRANT
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
APPROVALS DATE
DRAWN L. FRANZKE 10-28-80
CHECKED H D KOGA 11-10-80
SCALE
SIZE B
DRAWING NO. 75000752
DO NOT SCALE DRAWING
SHEET 3 OF 27
504108 C
74LS08
74LS74
7438
74LS30
74LS244
2908
25LS2521
RN4 1K
RN5 1K
R59 180
R34 180
R60 180
R35 390
R33 680
CA6 .001
+5V
BGFF-3
DBG-3
BGH-3
CO-5
C1-3,9
6-IC1
3-IBBSY
6-BR
6-MAR
6-VECTR
ADDR-3
DBUS 07-5,7,14,15
DBUS 06-5,7,14,15
DBUS 05-5,7,14,15
DBUS 04-5,7,14,15
DBUS 03-5,7,14,15
DBUS 02-5,7,14,15
DBUS 01-5,7,14,15
DBUS 00-5,7,14,15
BR4L
BR5L
BR6L
BR7L
BG4HI
BG4HO
BG5HI
BG5HO
BG6HI
BG6HO
BG7HI
BG7HO


REVISIONS
LTR | DESCRIPTION | DATE | APPROVED
+5V
R11 150K
C13 220pf
+5V
R22 680
+5R4 -3,4,16
12A
IBBSY-4,7
18B
74LS14
IBBSY-1,2,4
11A
EC ER
Q
3-+5R4
74LS123
J Q
CLK
K
NXM-3,7
74276
6-CCLR
4-NPGHI
4-DNPG
4-NPGFF
11F
74LS11
11B
74LS32
2-BGH
2-DBG
2-BGFF
11F
74LS11
12C
6-NPR
6-BR
3-BBSY
3-MSYN
3-PSSYN
2-CI
I0 I1 I2 I3 I4 I5 I6 I7 I8 I9 I10 I11 I12 I13 I14 I15
F0 F1 F2 F3 F4 F5 F6 F7
CE
82S100
ISACK-4
DOUT-1,14
SVC-8
PIO-8
R26 180
3-BBSY
C32 .001
3-NXM
2-ADDR
6-BUSSEQ
10G
IBBSY
IMSYN
ISSYN
10A
74LS08
8641
BBSY-3
FDI BBSYL
MSYN -3
EEI MSYNL
EJI SSYNL
R39 100
PSSYN-3
C44 .001
3
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
western peripherals ™
TUSTIN, CALIFORNIA
PDP-11 BUS CTRL AND NXM
APPROVALS DATE
DRAWN L. FRANZKE 10-28-80
CHECKED HD KOGA 11-10-80
SCALE
SIZE B
DRAWING NO. 75000752
DO NOT SCALE DRAWING
SHEET 4 OF 27

504108 C


REVISIONS
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DESCRIPTION
DATE
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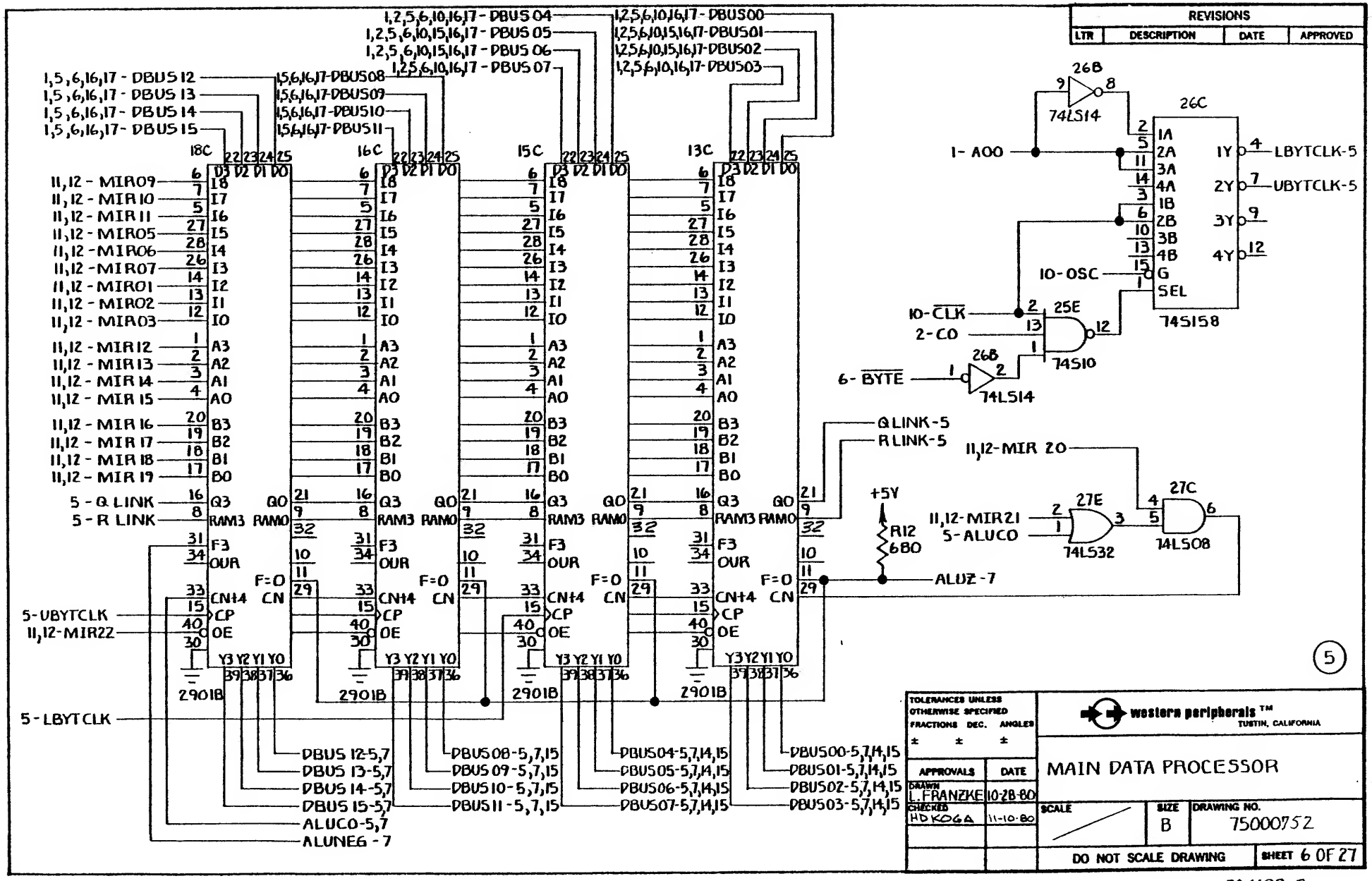
3,7-NXM
11E
8640
14 KILDMA-4
4-LEINIT
INITL DLI
INIT-4
26E
74LS00
RESET-8
DCLOL CNI
DCLO-4,14
R44
1K
+5V
E67
EXT RESET
8
C12
220 pf
R10
4.7K
11A
EC ER
Q
LEINIT-4
4-INIT
4-DCLO
74LS123
3+5R4
14-DOUT
15F
7438
FMI INTRL
6-BR
3-IBBSY
10A
74LS08
3-ISACK
FT2 SACKL
7,6-NPR
3-IBBSY
4-KILDMA
17F
FJ1 NPRL
16F
74LS74
NPGFF-3
R49
180
CB1 NPGH0
NPGHI-3
NPGHI CA1
PNPG-3
R36
180
R37
390
C48
.001
R62
180
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
APPROVALS DATE
DRAWN L. FRANZKE 10-28-80
CHECKED H.D KOCA 11-10-80
western peripherals TM
TUSTIN, CALIFORNIA
PDP-11 INIT, DCLO, AND NPR GRANT
SCALE
SIZE B
DRAWING NO. 7500075 2
DO NOT SCALE DRAWING
SHEET 5 OF 27
4
504108 B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16C
15C
13C
2901B
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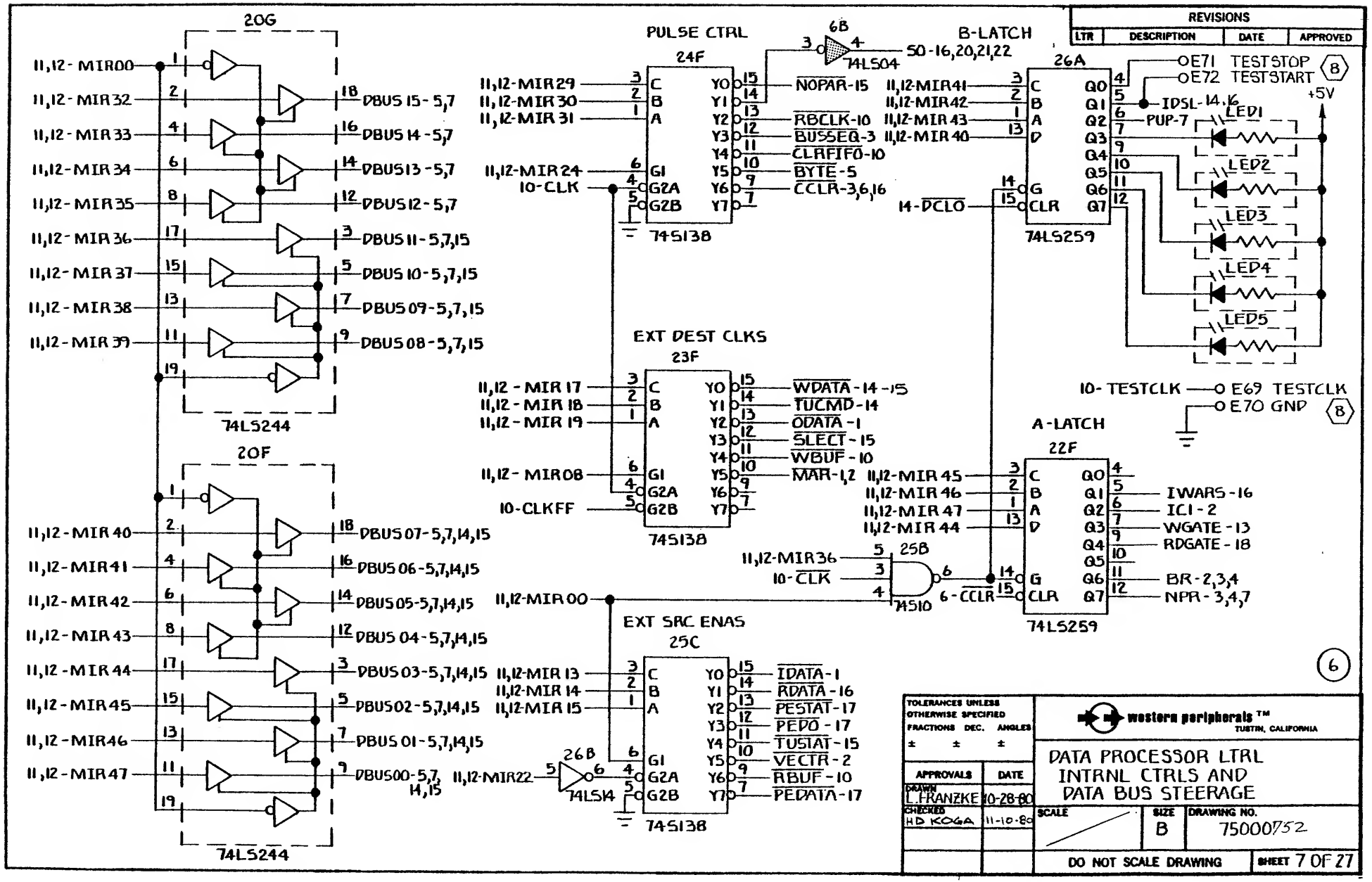
1,5,6,16,17 - DBUS 13
1,5,6,16,17 - DBUS 14
1,5,6,16,17 - DBUS 15
1,2,5,6,10,16,17 - DBUS 04
1,2,5,6,10,15,16,17 - DBUS 05
1,2,5,6,10,15,16,17 - DBUS 06
1,2,5,6,10,16,17 - DBUS 07
1,2,5,6,10,16,17 - DBUS00
1,2,5,6,10,15,16,17-DBUS01
1,2,5,6,10,15,16,17-DBUS02
1,2,5,6,10,16,17-DBUS03
1,5,6,16,17-DBUS08
1,5,6,16,17-DBUS09
1,5,6,16,17-DBUS10
1,5,6,16,17-DBUS11
11,12 - MIR09
11,12 - MIR10
11,12 - MIR11
11,12 - MIR05
11,12 - MIR06
11,12 - MIR07
11,12 - MIR01
11,12 - MIR02
11,12 - MIR03
11,12 - MIR12
11,12 - MIR13
11,12 - MIR14
11,12 - MIR15
11,12 - MIR16
11,12 - MIR17
11,12 - MIR18
11,12 - MIR19
5 - Q LINK
5 - R LINK
5-UBYTCLK
11,12-MIR22
5-LBYTCLK
DBUS 12-5,7
DBUS 13-5,7
DBUS 14-5,7
DBUS 15-5,7
DBUS 08-5,7,15
DBUS 09-5,7,15
DBUS 10-5,7,15
DBUS 11-5,7,15
DBUS04-5,7,14,15
DBUS05-5,7,14,15
DBUS06-5,7,14,15
DBUS07-5,7,14,15
DBUS00-5,7,14,15
DBUS01-5,7,14,15
DBUS02-5,7,14,15
DBUS03-5,7,14,15
ALUCO-5,7
ALUNEG-7
26B
74LS14
26C
74S158
1-A00
LBYTCLK-5
UBYTCLK-5
10-OSC
10-CLK
2-CO
25E
74S10
6-BYTE
Q LINK-5
R LINK-5
11,12-MIR 20
+5V
R12
680
ALUZ-7
27E
74LS32
27C
74LS08
11,12-MIR21
5-ALUCO
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
APPROVALS | DATE
DRAWN L. FRANZKE 10-28-80
CHECKED HDKOGA 11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
MAIN DATA PROCESSOR
SCALE
SIZE B
DRAWING NO. 75000752
DO NOT SCALE DRAWING
SHEET 6 OF 27
5
504108 C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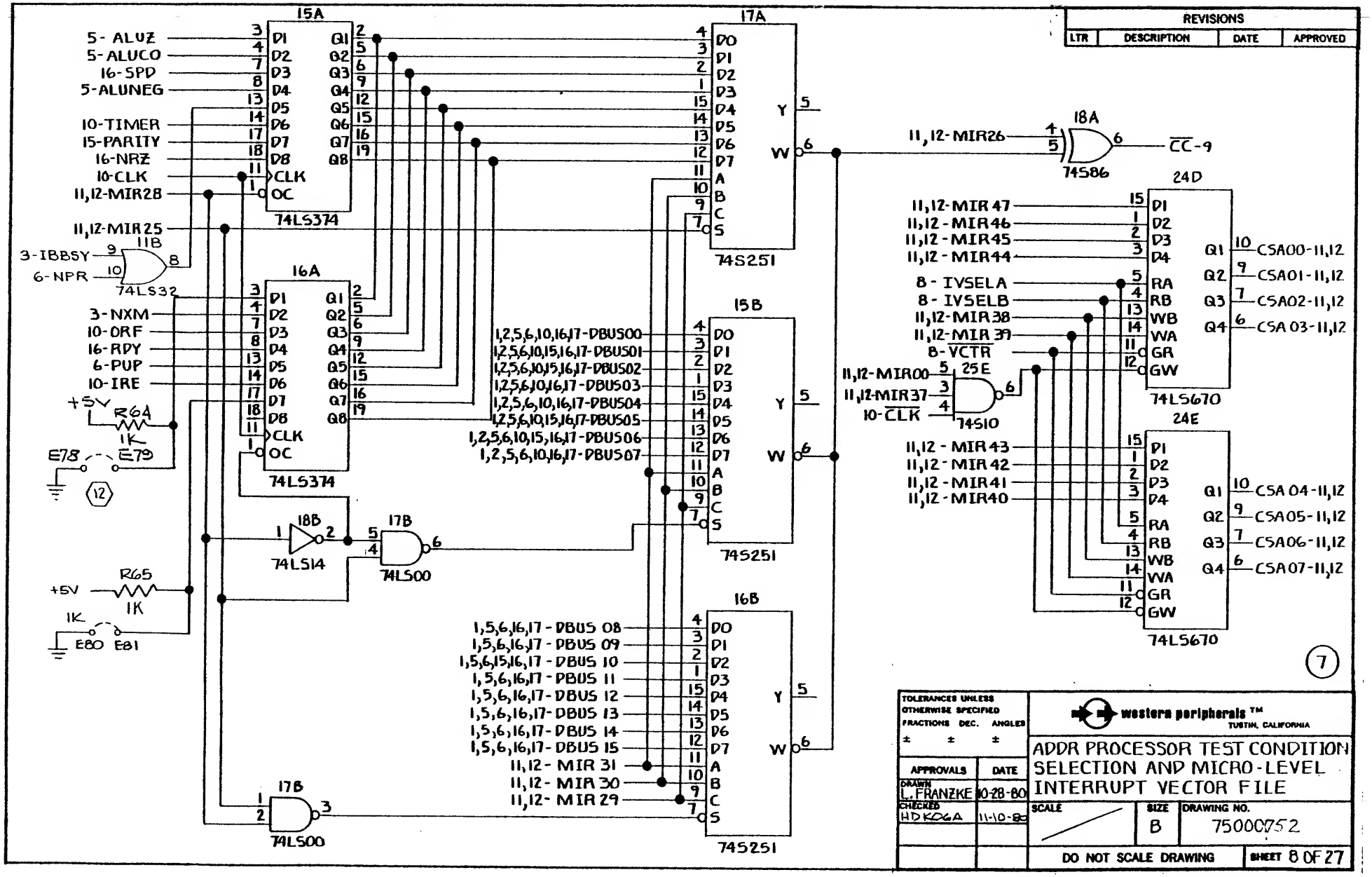
11,12-MIR00
11,12-MIR32
11,12-MIR33
11,12-MIR34
11,12-MIR35
11,12-MIR36
11,12-MIR37
11,12-MIR38
11,12-MIR39
DBUS15-5,7
DBUS14-5,7
DBUS13-5,7
DBUS12-5,7
DBUS11-5,7,15
DBUS10-5,7,15
DBUS09-5,7,15
DBUS08-5,7,15
74LS244
20F
11,12-MIR40
11,12-MIR41
11,12-MIR42
11,12-MIR43
11,12-MIR44
11,12-MIR45
11,12-MIR46
11,12-MIR47
DBUS07-5,7,14,15
DBUS06-5,7,14,15
DBUS05-5,7,14,15
DBUS04-5,7,14,15
DBUS03-5,7,14,15
DBUS02-5,7,14,15
DBUS01-5,7,14,15
DBUS00-5,7,14,15
74LS244
PULSE CTRL
24F
11,12-MIR29
11,12-MIR30
11,12-MIR31
11,12-MIR24
10-CLK
NOPAR-15
RBCLK-10
BUSSEQ-3
CLRFIFO-10
BYTE-5
CCLR-3,6,16
74S138
6B
74LS04
50-16,20,21,22
B-LATCH
26A
11,12-MIR41
11,12-MIR42
11,12-MIR43
11,12-MIR40
14-DCLO
74LS259
OE71 TESTSTOP
OE72 TESTSTART
IDSL-14,16
PUP-7
+5V
LED1
LED2
LED3
LED4
LED5
10-TESTCLK
OE69 TESTCLK
OE70 GND
EXT DEST CLKS
23F
11,12-MIR17
11,12-MIR18
11,12-MIR19
11,12-MIR08
10-CLKFF
WDATA-14-15
TUCMD-14
ODATA-1
SLECT-15
WBUF-10
MAR-1,2
74S138
A-LATCH
22F
11,12-MIR45
11,12-MIR46
11,12-MIR47
11,12-MIR44
IWARS-16
ICI-2
WGATE-13
RDGATE-18
BR-2,3,4
NPR-3,4,7
74LS259
25B
11,12-MIR36
10-CLK
6-CCLR
74S10
11,12-MIR00
EXT SRC ENAS
25C
11,12-MIR13
11,12-MIR14
11,12-MIR15
IDATA-1
RDATA-16
PESTAT-17
PEDO-17
TUSTAT-15
VECTR-2
RBUF-10
PEDATA-17
74S138
26B
74LS14
11,12-MIR22
6
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
APPROVALS DATE
DRAWN L.FRANZKE 10-28-80
CHECKED H.D KOGA 11-10-80
western peripherals™ TUSTIN, CALIFORNIA
DATA PROCESSOR LTRL
INTRNL CTRLS AND
DATA BUS STEERAGE
SCALE
SIZE B
DRAWING NO. 75000752
DO NOT SCALE DRAWING
SHEET 7 OF 27
504108 C



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±

APPROVALS	DATE
DRAWN L. FRANZKE	10-28-80
CHECKED HDKOGA	11-10-80

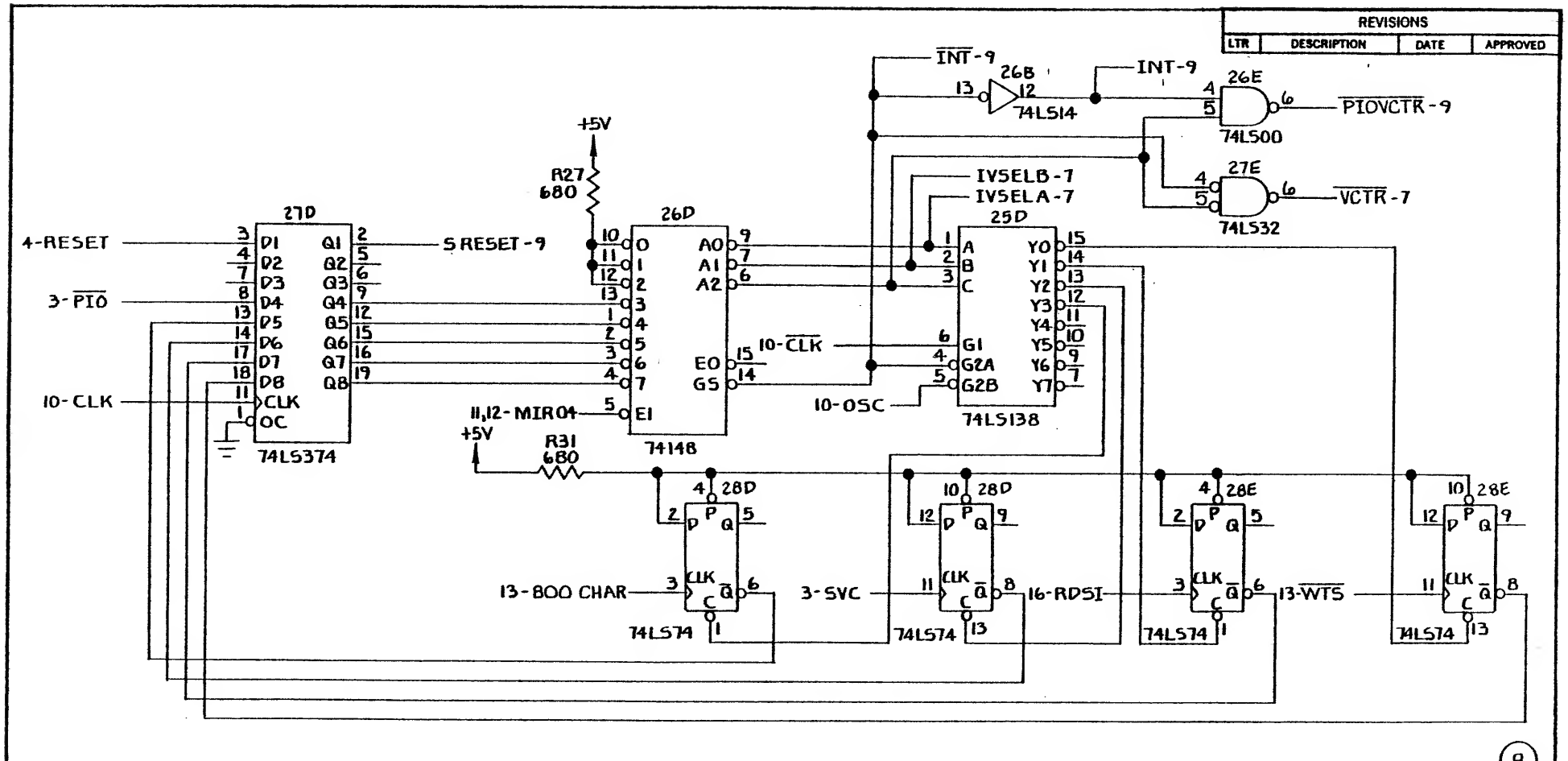
western peripherals ™ TUSTIN, CALIFORNIA

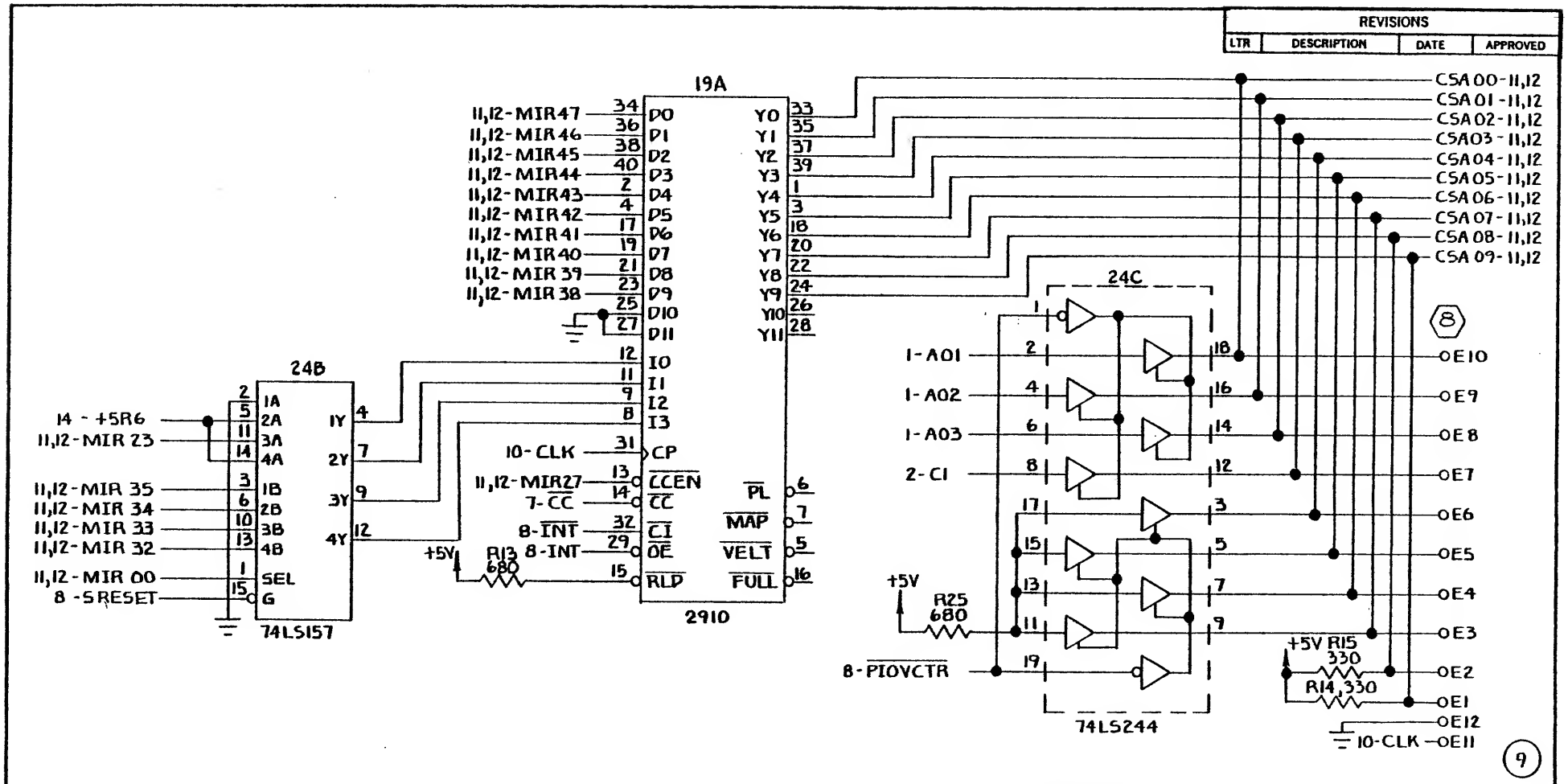
ADDR PROCESSOR TEST CONDITION SELECTION AND MICRO-LEVEL INTERRUPT VECTOR FILE

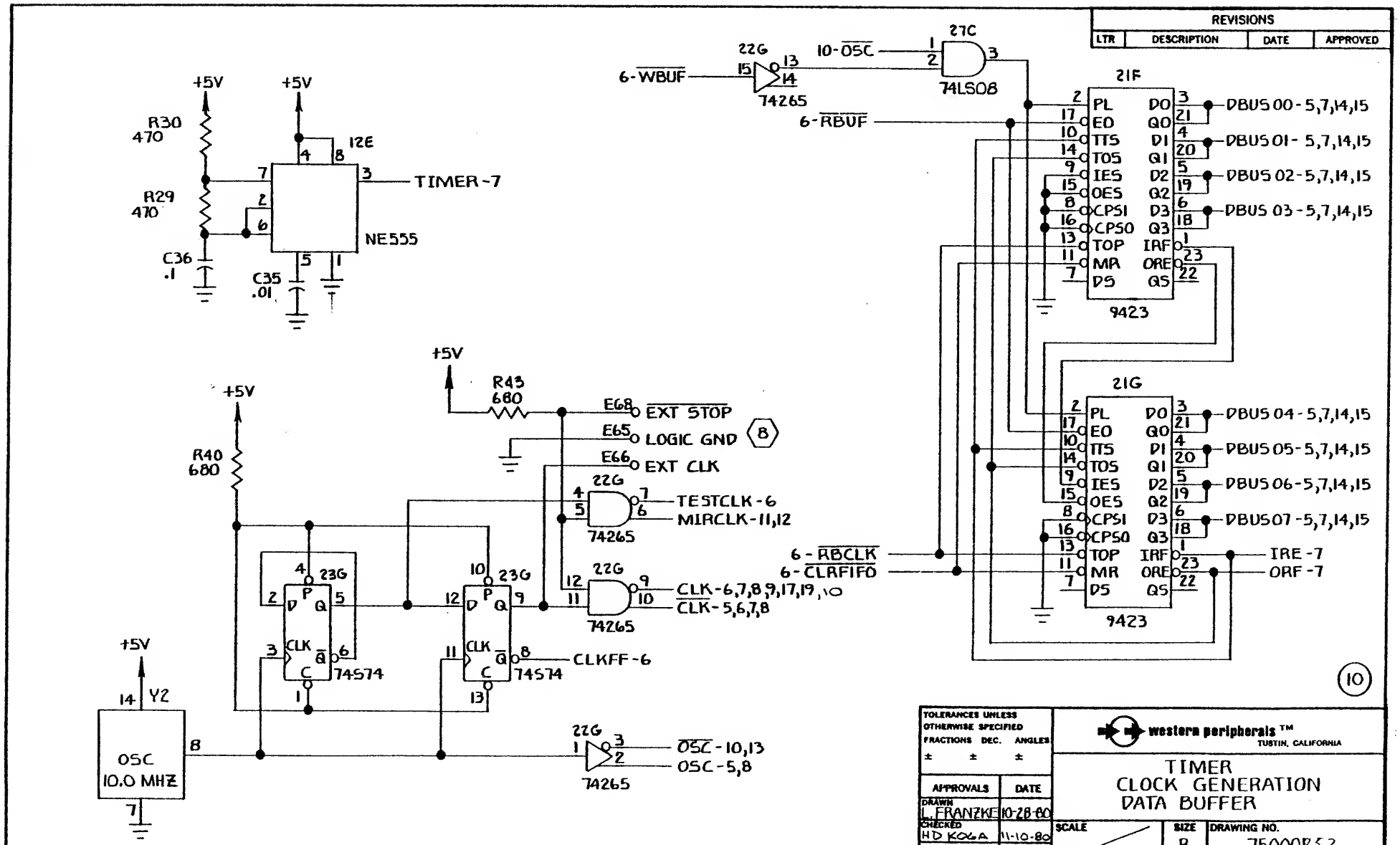
SCALE | SIZE B | DRAWING NO. 75000752

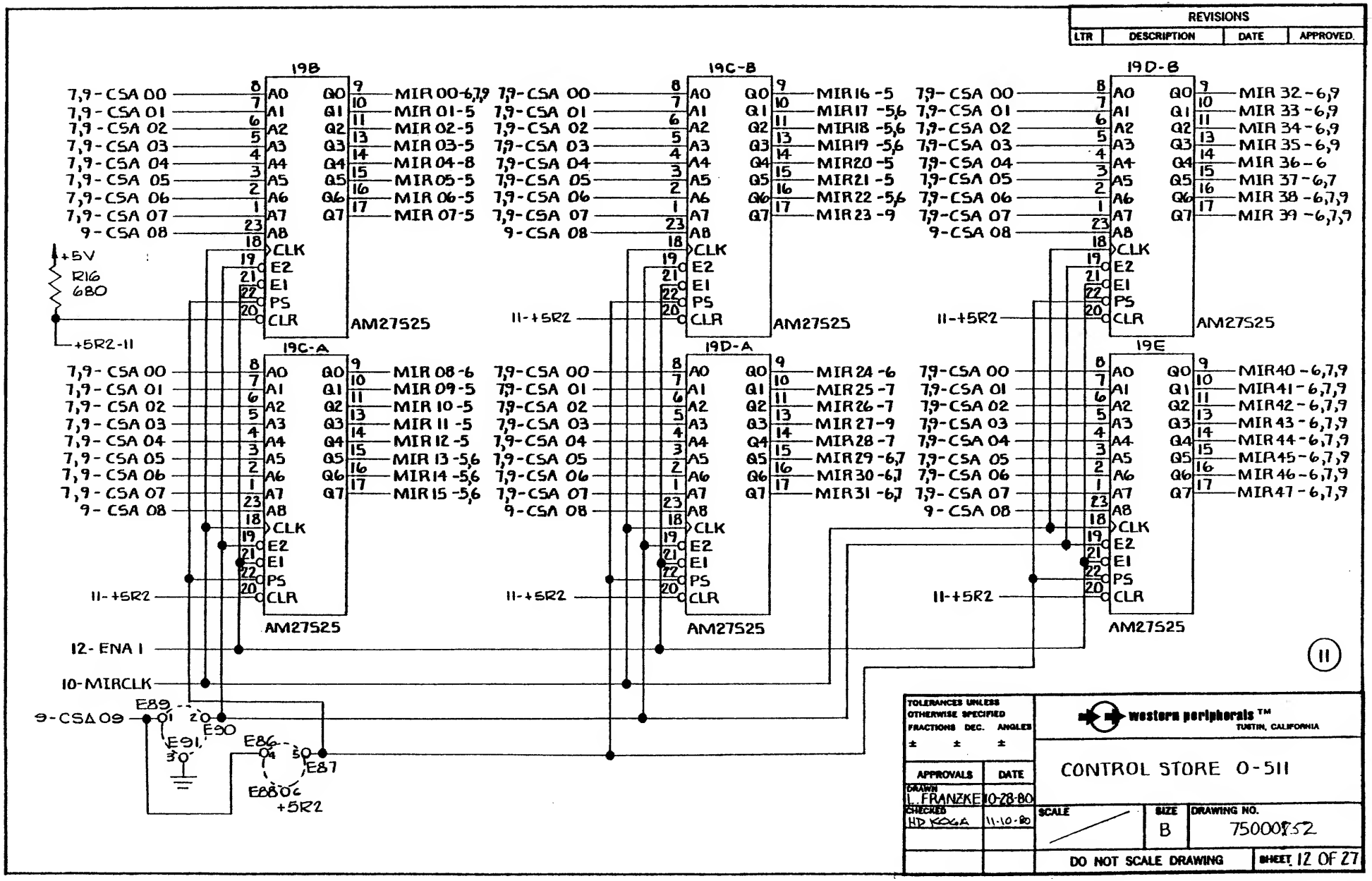
DO NOT SCALE DRAWING | SHEET 8 OF 27

504108 C


REVISIONS
LTR
DESCRIPTION
DATE
APPROVED
INT-9
26B
74LS14
INT-9
26E
74LS00
PIOVCTR-9
27E
74LS32
VCTR-7
IVSELB-7
IVSELA-7
25D
74LS138
+5V
R27
680
27D
74LS374
4-RESET
3-PIO
10-CLK
S RESET-9
26D
74148
11,12-MIR04
10-CLK
10-OSC
+5V
R31
680
28D
28D
28E
28E
13-BOO CHAR
3-SVC
16-RDSI
13-WTS
74LS74
74LS74
74LS74
74LS74
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
APPROVALS
DATE
DRAWN
L. FRANZKE
10-28-80
CHECKED
H. DKOGA
11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
MICRO-LEVEL INTERRUPT CTRL
SCALE
SIZE
B
DRAWING NO.
75000752
DO NOT SCALE DRAWING
SHEET 9 OF 27
504108 C


REVISIONS
LTR
DESCRIPTION
DATE
APPROVED
19A
2910
24B
74LS157
24C
74LS244
14 - +5R6
11,12-MIR 23
11,12-MIR 35
11,12-MIR 34
11,12-MIR 33
11,12-MIR 32
11,12-MIR 00
8 -SRESET
11,12-MIR47
11,12-MIR46
11,12-MIR45
11,12-MIR44
11,12-MIR43
11,12-MIR42
11,12-MIR41
11,12-MIR40
11,12-MIR 39
11,12-MIR 38
10-CLK
11,12-MIR27
7-CC
8-INT
8-INT
+5V
R13 680
1-A01
1-A02
1-A03
2-CI
8-PIOVCTR
+5V
R25 680
+5V R15 330
R14,330
10-CLK
CSA 00-11,12
CSA 01-11,12
CSA 02-11,12
CSA 03-11,12
CSA 04-11,12
CSA 05-11,12
CSA 06-11,12
CSA 07-11,12
CSA 08-11,12
CSA 09-11,12
OE10
OE9
OE8
OE7
OE6
OE5
OE4
OE3
OE2
OE1
OE12
OE11
8
9
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
APPROVALS
DATE
DRAWN L. FRANZKE 10-28-80
CHECKED H D KOGA 11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
ADDR PROCESSOR
SCALE
SIZE B
DRAWING NO. 75000752
DO NOT SCALE DRAWING
SHEET 10 OF 27
504108 C


REVISIONS
LTR
DESCRIPTION
DATE
APPROVED
+5V
R30
470
R29
470
C36
.1
C35
.01
12E
NE555
TIMER-7
22G
74265
10-OSC
27C
74LS08
6-WBUF
6-RBUF
21F
9423
DBUS 00-5,7,14,15
DBUS 01-5,7,14,15
DBUS 02-5,7,14,15
DBUS 03-5,7,14,15
21G
DBUS 04-5,7,14,15
DBUS 05-5,7,14,15
DBUS 06-5,7,14,15
DBUS 07-5,7,14,15
6-RBCLK
6-CLRFIFO
IRE-7
ORF-7
R43
680
R40
680
E68
EXT STOP
E65
LOGIC GND
E66
EXT CLK
TESTCLK-6
MIRCLK-11,12
CLK-6,7,8,9,17,19,10
CLK-5,6,7,8
23G
74574
CLKFF-6
OSC
10.0 MHZ
Y2
OSC-10,13
OSC-5,8
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
APPROVALS
DATE
DRAWN
L. FRANZKE
10-28-80
CHECKED
HD KOGA
11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
TIMER
CLOCK GENERATION
DATA BUFFER
SCALE
SIZE
B
DRAWING NO.
75000752
DO NOT SCALE DRAWING
SHEET 11 OF 27
504108 C


REVISIONS
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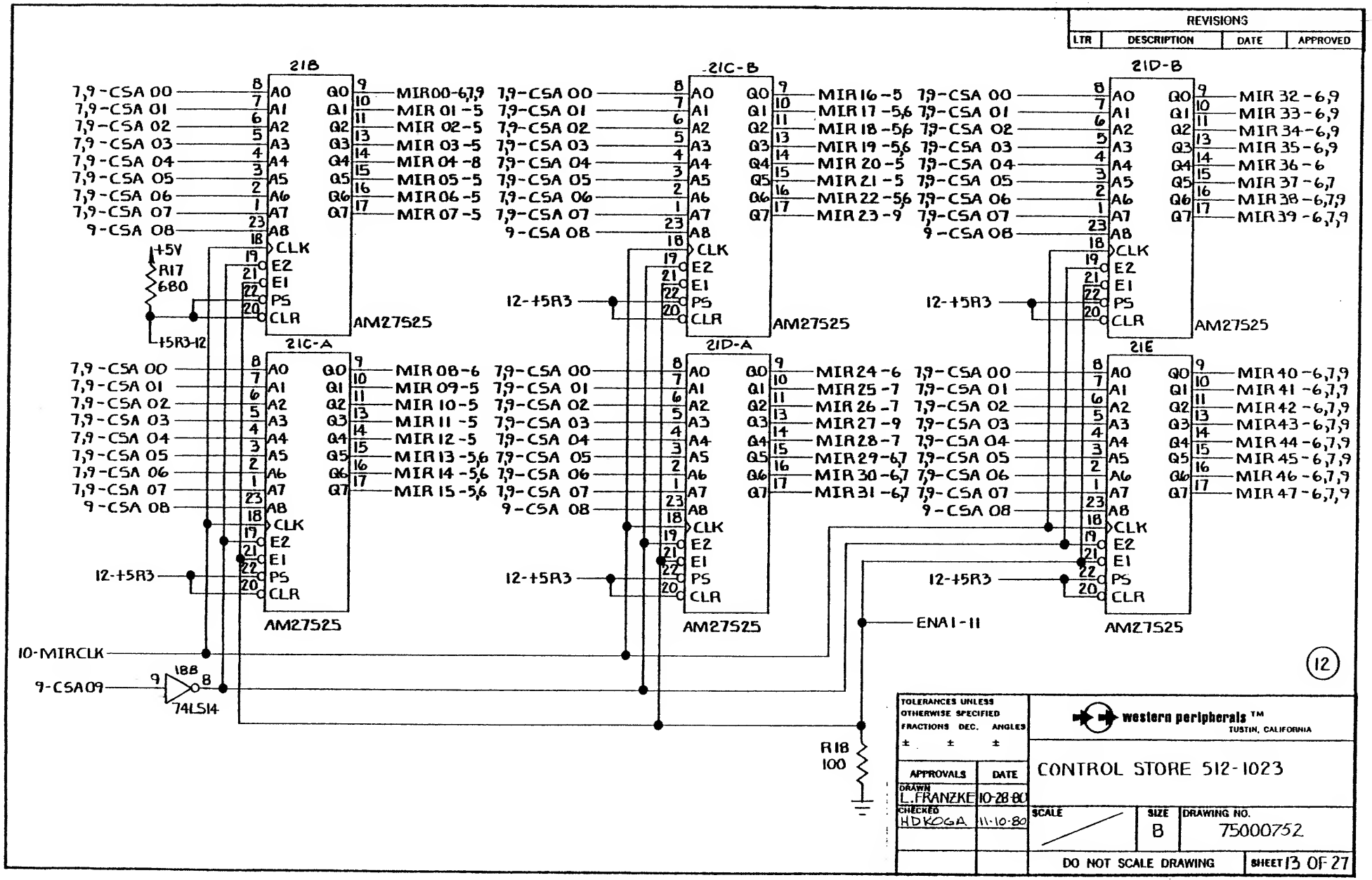
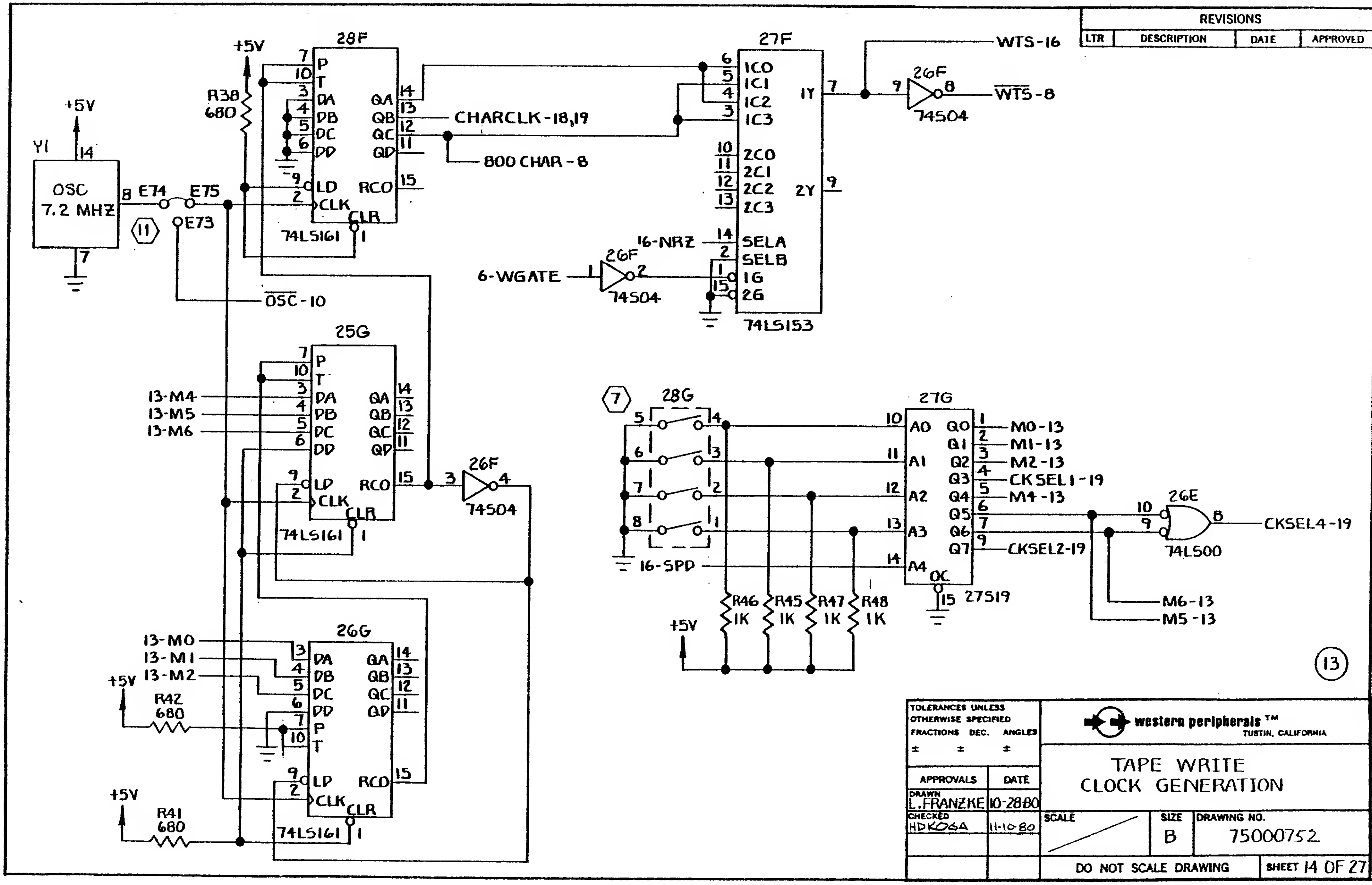
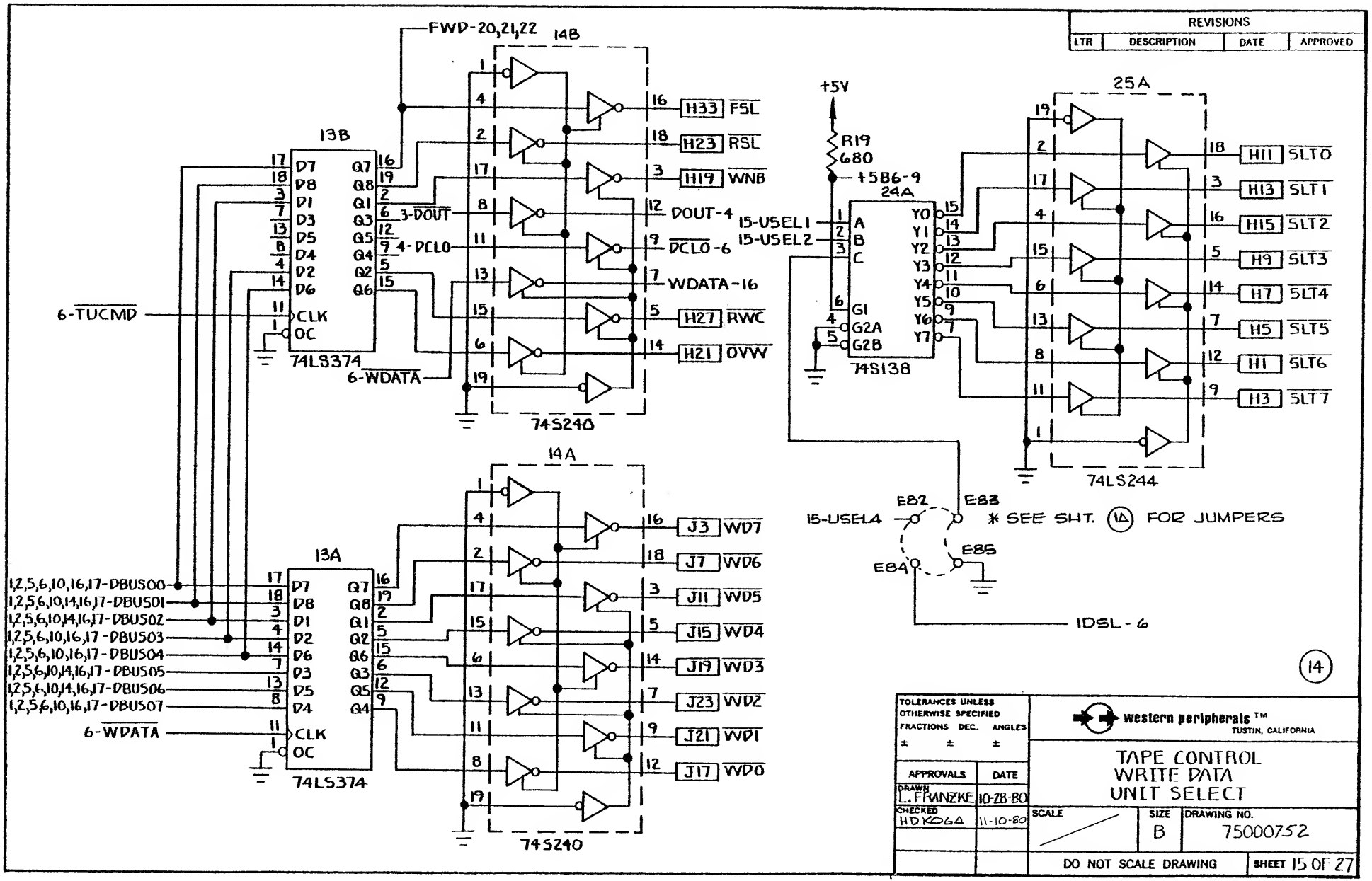
19C-B
19D-B
19C-A
19D-A
19E
AM27525
7,9-CSA 00
7,9-CSA 01
7,9-CSA 02
7,9-CSA 03
7,9-CSA 04
7,9-CSA 05
7,9-CSA 06
7,9-CSA 07
9-CSA 08
MIR 00-6,7,9
MIR 01-5
MIR 02-5
MIR 03-5
MIR 04-8
MIR 05-5
MIR 06-5
MIR 07-5
MIR 08-6
MIR 09-5
MIR 10-5
MIR 11-5
MIR 12-5
MIR 13-5,6
MIR 14-5,6
MIR 15-5,6
MIR 16-5
MIR 17-5,6
MIR 18-5,6
MIR 19-5,6
MIR 20-5
MIR 21-5
MIR 22-5,6
MIR 23-9
MIR 24-6
MIR 25-7
MIR 26-7
MIR 27-9
MIR 28-7
MIR 29-6,7
MIR 30-6,7
MIR 31-6,7
MIR 32-6,9
MIR 33-6,9
MIR 34-6,9
MIR 35-6,9
MIR 36-6
MIR 37-6,7
MIR 38-6,7,9
MIR 39-6,7,9
MIR40-6,7,9
MIR41-6,7,9
MIR42-6,7,9
MIR43-6,7,9
MIR44-6,7,9
MIR45-6,7,9
MIR46-6,7,9
MIR47-6,7,9
+5V
R16
680
+5R2-11
11-+5R2
12-ENA I
10-MIRCLK
9-CSA 09
E89
E90
E91
E86
E87
E88
+5R2
11
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
APPROVALS | DATE
DRAWN L. FRANZKE 10-28-80
CHECKED HD KOGA 11-10-80
western peripherals™
TUSTIN, CALIFORNIA
CONTROL STORE 0-511
SCALE
SIZE B
DRAWING NO. 75000852
DO NOT SCALE DRAWING
SHEET 12 OF 27
504108 C


REVISIONS
LTR | DESCRIPTION | DATE | APPROVED
21B
21C-A
21C-B
21D-A
21D-B
21E
AM27525
7,9-CSA 00
7,9-CSA 01
7,9-CSA 02
7,9-CSA 03
7,9-CSA 04
7,9-CSA 05
7,9-CSA 06
7,9-CSA 07
9-CSA 08
MIR00-6,7,9
MIR 01 -5
MIR 02-5
MIR 03-5
MIR 04-8
MIR 05-5
MIR 06-5
MIR 07-5
MIR 08-6
MIR 09-5
MIR 10-5
MIR 11 -5
MIR 12-5
MIR 13-5,6
MIR 14-5,6
MIR 15-5,6
MIR 16-5
MIR 17-5,6
MIR 18-5,6
MIR 19-5,6
MIR 20-5
MIR 21-5
MIR 22-5,6
MIR 23-9
MIR 24-6
MIR 25-7
MIR 26-7
MIR 27-9
MIR 28-7
MIR 29-6,7
MIR 30-6,7
MIR 31-6,7
MIR 32-6,9
MIR 33-6,9
MIR 34-6,9
MIR 35-6,9
MIR 36-6
MIR 37-6,7
MIR 38-6,7,9
MIR 39-6,7,9
MIR 40-6,7,9
MIR 41-6,7,9
MIR 42-6,7,9
MIR 43-6,7,9
MIR 44-6,7,9
MIR 45-6,7,9
MIR 46-6,7,9
MIR 47-6,7,9
+5V
R17
680
+5R3-12
12-+5R3
10-MIRCLK
9-CSA09
74LS14
ENA1-11
R18
100
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
APPROVALS DATE
DRAWN L.FRANZKE 10-28-80
CHECKED HDKOGA 11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
CONTROL STORE 512-1023
SCALE
SIZE B
DRAWING NO. 75000752
DO NOT SCALE DRAWING
SHEET 13 OF 27
504108 C


REVISIONS
LTR
DESCRIPTION
DATE
APPROVED
Y1
OSC
7.2 MHZ
+5V
E74
E75
E73
OSC-10
R38
680
28F
74LS161
CHARCLK-18,19
800 CHAR-8
27F
74LS153
WTS-16
26F
74S04
WTS-8
16-NRZ
6-WGATE
25G
13-M4
13-M5
13-M6
26G
13-M0
13-M1
13-M2
R42
680
R41
680
28G
16-SPD
R46
1K
R45
1K
R47
1K
R48
1K
27G
27S19
M0-13
M1-13
M2-13
CKSEL1-19
M4-13
CKSEL2-19
26E
74LS00
CKSEL4-19
M6-13
M5-13
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
APPROVALS
DATE
DRAWN
L.FRANZKE 10-28-80
CHECKED
HDKOGA 11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
TAPE WRITE
CLOCK GENERATION
SCALE
SIZE
B
DRAWING NO.
75000752
DO NOT SCALE DRAWING
SHEET 14 OF 27

504108 C


REVISIONS
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DESCRIPTION
DATE
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FWD-20,21,22
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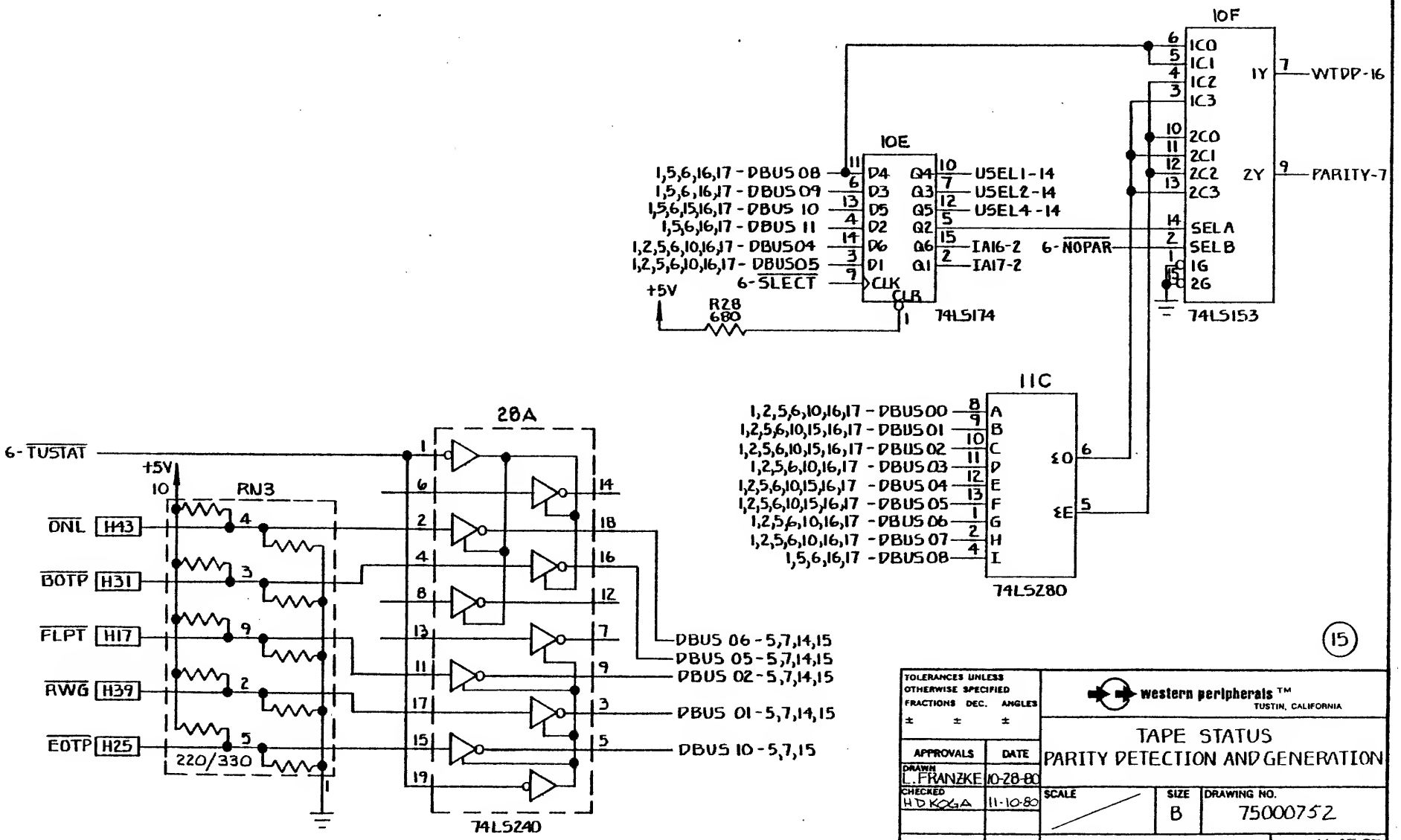
74S240
13B
74LS374
6-TUCMD
6-WDATA
3-DOUT
4-DCLO
H33 FSL
H23 RSL
H19 WNB
DOUT-4
DCLO-6
WDATA-16
H27 RWC
H21 OVW
+5V
R19
680
+5B6-9
24A
74S138
15-USEL1
15-USEL2
15-USEL4
25A
74LS244
H11 SLT0
H13 SLT1
H15 SLT2
H9 SLT3
H7 SLT4
H5 SLT5
H1 SLT6
H3 SLT7
E82
E83
E84
E85
* SEE SHT. (14) FOR JUMPERS
IDSL-6
14A
13A
74LS374
1,2,5,6,10,16,17-DBUS00
1,2,5,6,10,14,16,17-DBUS01
1,2,5,6,10,14,16,17-DBUS02
1,2,5,6,10,16,17-DBUS03
1,2,5,6,10,16,17-DBUS04
1,2,5,6,10,14,16,17-DBUS05
1,2,5,6,10,14,16,17-DBUS06
1,2,5,6,10,16,17-DBUS07
6-WDATA
J3 WD7
J7 WD6
J11 WD5
J15 WD4
J19 WD3
J23 WD2
J21 WD1
J17 WD0
14
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
APPROVALS DATE
DRAWN L. FRANZKE 10-28-80
CHECKED HDKOGA 11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
TAPE CONTROL
WRITE DATA
UNIT SELECT
SCALE
SIZE B
DRAWING NO. 75000752
DO NOT SCALE DRAWING
SHEET 15 OF 27

504108 C

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

APPROVALS	DATE
DRAWN L. FRANZKE	10-28-80
CHECKED H D KOGA	11-10-80

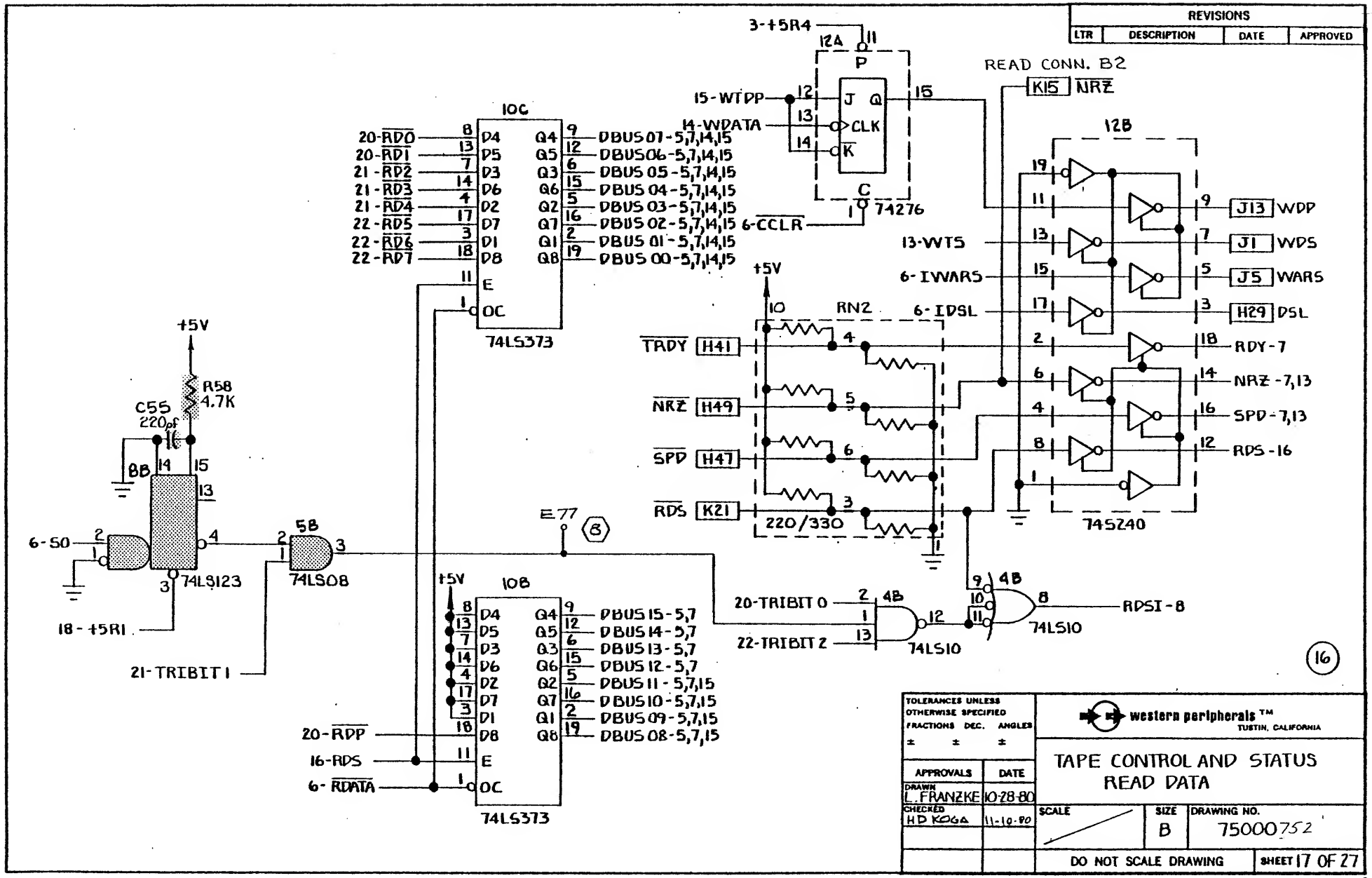
western peripherals ™ TUSTIN, CALIFORNIA

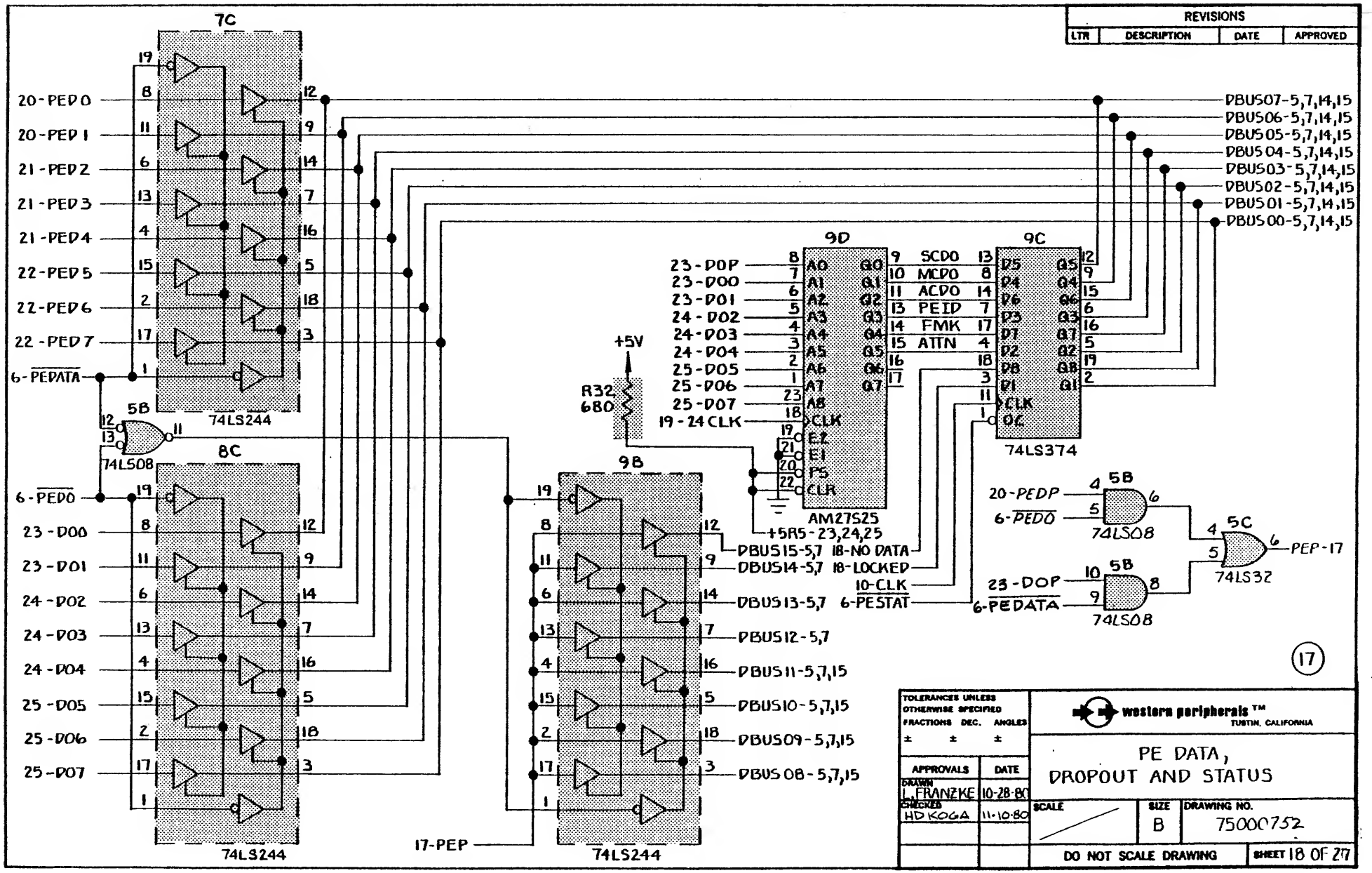
TAPE STATUS PARITY DETECTION AND GENERATION

SCALE	SIZE	DRAWING NO.
	B	75000752

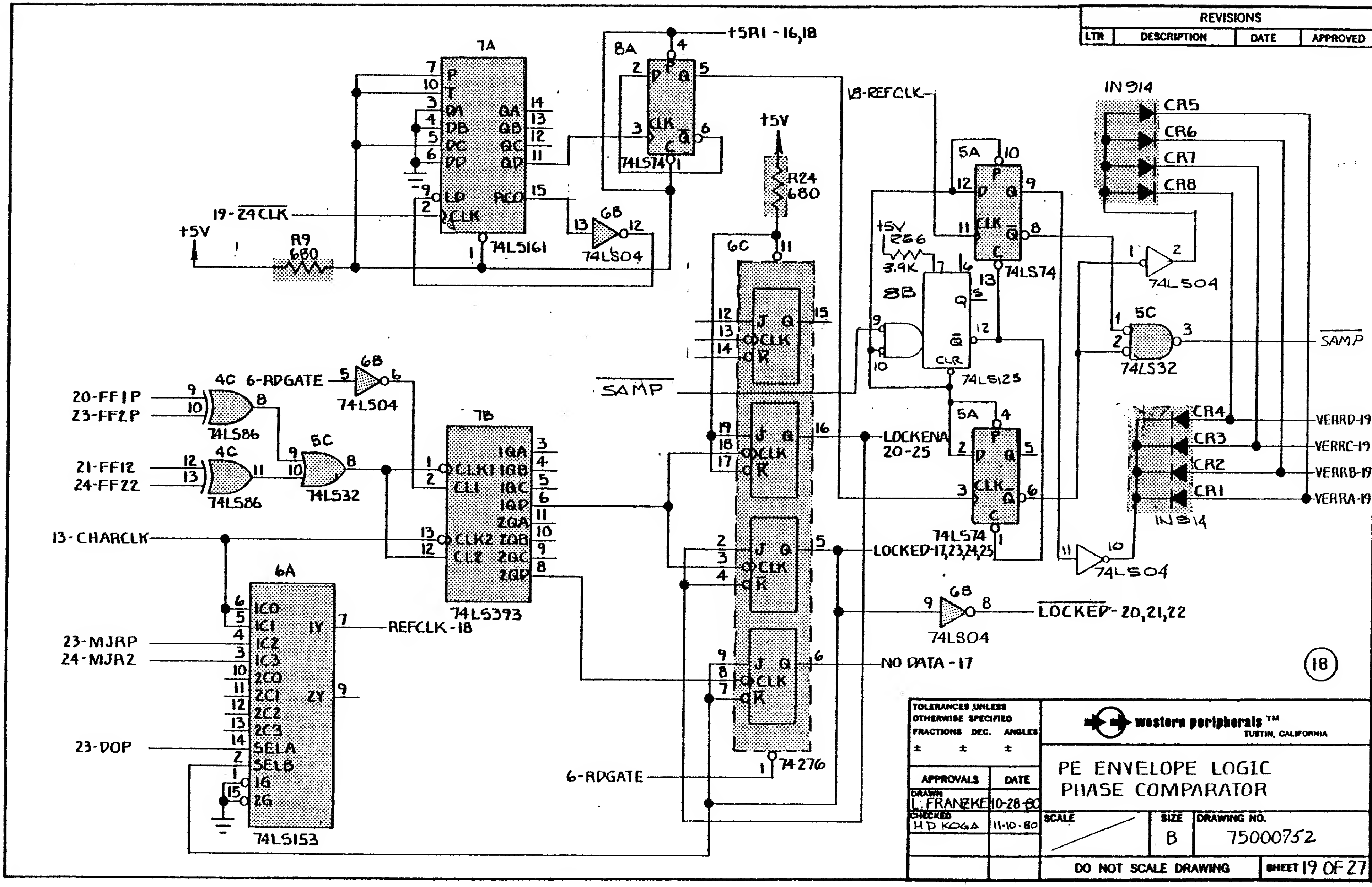
DO NOT SCALE DRAWING — SHEET 16 OF 27

504108 C

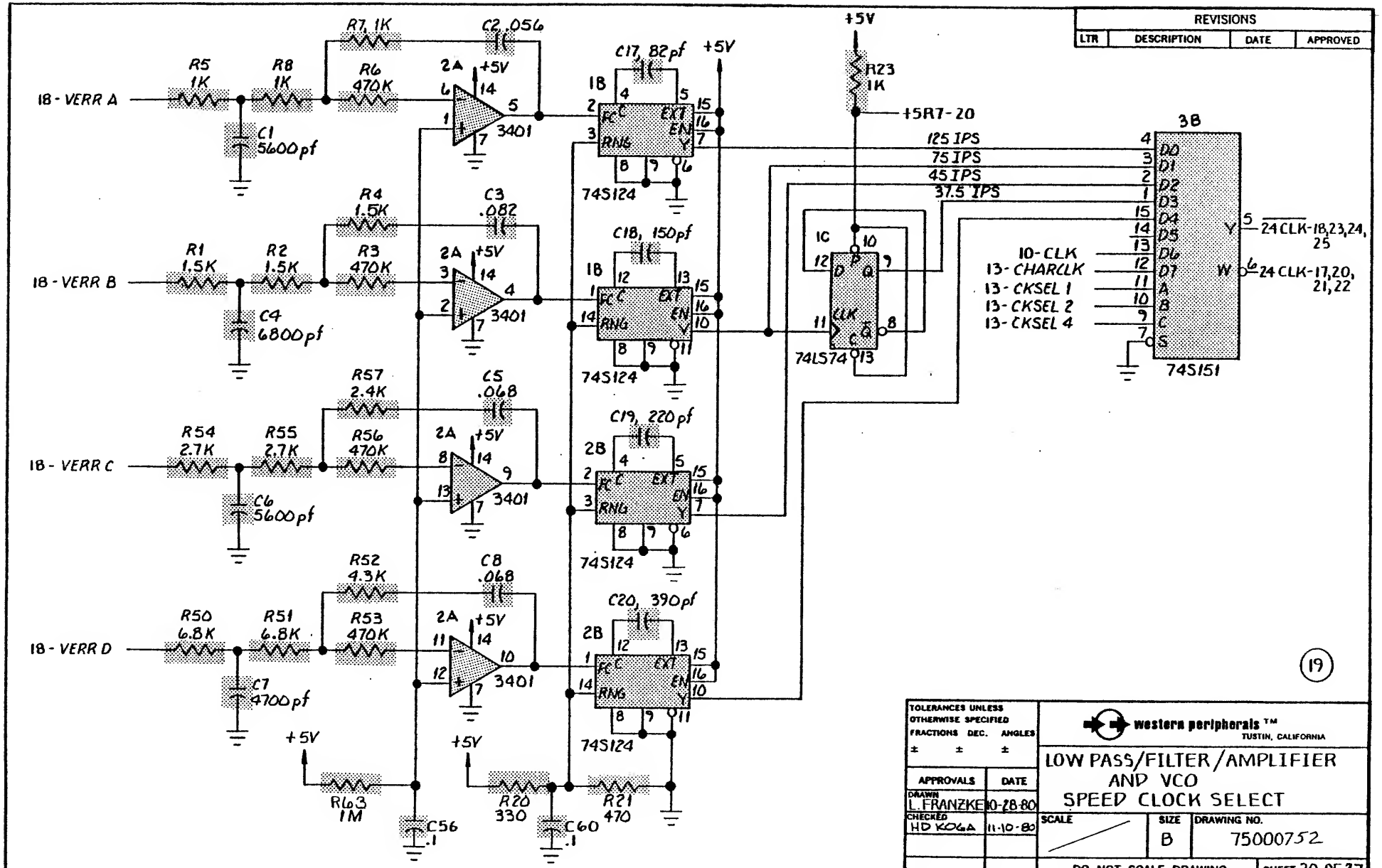

REVISIONS
LTR | DESCRIPTION | DATE | APPROVED
READ CONN. B2
K15 NRZ
3-+5R4
12A
P
15-WTPP
14-WDATA
6-CCLR
74276
10C
20-RD0
20-RD1
21-RD2
21-RD3
21-RD4
22-RD5
22-RD6
22-RD7
DBUS 07-5,7,14,15
DBUS 06-5,7,14,15
DBUS 05-5,7,14,15
DBUS 04-5,7,14,15
DBUS 03-5,7,14,15
DBUS 02-5,7,14,15
DBUS 01-5,7,14,15
DBUS 00-5,7,14,15
74LS373
12B
13-WTS
6-IWARS
6-IDSL
J13 WDP
J1 WDS
J5 WARS
H29 DSL
RDY-7
NRZ-7,13
SPD-7,13
RDS-16
74S240
+5V
RN2
220/330
TRDY H41
NRZ H49
SPD H47
RDS K21
R58 4.7K
C55 220pf
6-S0
74LS123
74LS08
18-+5R1
21-TRIBIT 1
E.77
8
10B
20-RDP
16-RDS
6-RDATA
DBUS 15-5,7
DBUS 14-5,7
DBUS 13-5,7
DBUS 12-5,7
DBUS 11-5,7,15
DBUS 10-5,7,15
DBUS 09-5,7,15
DBUS 08-5,7,15
20-TRIBIT 0
22-TRIBIT 2
74LS10
RDSI-8
16
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
APPROVALS DATE
DRAWN L. FRANZKE 10-28-80
CHECKED H D KOGA 11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
TAPE CONTROL AND STATUS
READ DATA
SCALE
SIZE B
DRAWING NO. 75000752
DO NOT SCALE DRAWING
SHEET 17 OF 27
504108 B


REVISIONS
LTR
DESCRIPTION
DATE
APPROVED
7C
20-PED0
20-PED1
21-PED2
21-PED3
21-PED4
22-PED5
22-PED6
22-PED7
6-PEDATA
74LS244
5B
74LS08
8C
6-PED0
23-D00
23-D01
24-D02
24-D03
24-D04
25-D05
25-D06
25-D07
74LS244
17-PEP
9B
74LS244
+5V
R32
680
9D
23-D0P
23-D00
23-D01
24-D02
24-D03
24-D04
25-D05
25-D06
25-D07
19-24CLK
AM27S25
+5R5-23,24,25
DBUS15-5,7
DBUS14-5,7
DBUS13-5,7
DBUS12-5,7
DBUS11-5,7,15
DBUS10-5,7,15
DBUS09-5,7,15
DBUS08-5,7,15
9C
SCD0
MCD0
ACD0
PEID
FMK
ATTN
18-NO DATA
18-LOCKED
10-CLK
6-PESTAT
74LS374
DBUS07-5,7,14,15
DBUS06-5,7,14,15
DBUS05-5,7,14,15
DBUS04-5,7,14,15
DBUS03-5,7,14,15
DBUS02-5,7,14,15
DBUS01-5,7,14,15
DBUS00-5,7,14,15
20-PEDP
6-PED0
5B
74LS08
5C
74LS32
PEP-17
23-D0P
6-PEDATA
5B
74LS08
17
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
APPROVALS DATE
DRAWN L. FRANZKE 10-28-80
CHECKED HD KOGA 11-10-80
western peripherals™
TUSTIN, CALIFORNIA
PE DATA,
DROPOUT AND STATUS
SCALE
SIZE B
DRAWING NO. 75000752
DO NOT SCALE DRAWING
SHEET 18 OF 27

504108 C


REVISIONS
LTR
DESCRIPTION
DATE
APPROVED
+5R1 - 16,18
7A
8A
74LS161
74LS74
19-24CLK
+5V
R9
680
6B
74LS04
18-REFCLK
+5V
R24
680
6C
5A
74LS74
IN914
CR5
CR6
CR7
CR8
+5V
R26
3.9K
8B
74LS125
5C
74LS32
SAMP
4C
6-RDGATE
20-FF1P
23-FF2P
74LS86
21-FF12
24-FF22
74LS32
7B
74LS393
13-CHARCLK
6A
74LS153
REFCLK-18
23-MJRP
24-MJR2
23-DOP
LOCKENA
20-25
LOCKED-17,23,24,25
LOCKED - 20,21,22
NO DATA - 17
74276
6-RDGATE
CR4
CR3
CR2
CR1
VERRD-19
VERRC-19
VERRB-19
VERRA-19
18
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
± ± ±
APPROVALS
DATE
DRAWN L. FRANZKE 10-28-80
CHECKED HD KOGA 11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
PE ENVELOPE LOGIC
PHASE COMPARATOR
SCALE
SIZE B
DRAWING NO. 75000752
DO NOT SCALE DRAWING
SHEET 19 OF 27

504108 C



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

(19)

TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

APPROVALS	DATE
DRAWN L. FRANZKE	10-28-80
CHECKED HD KOGA	11-10-80

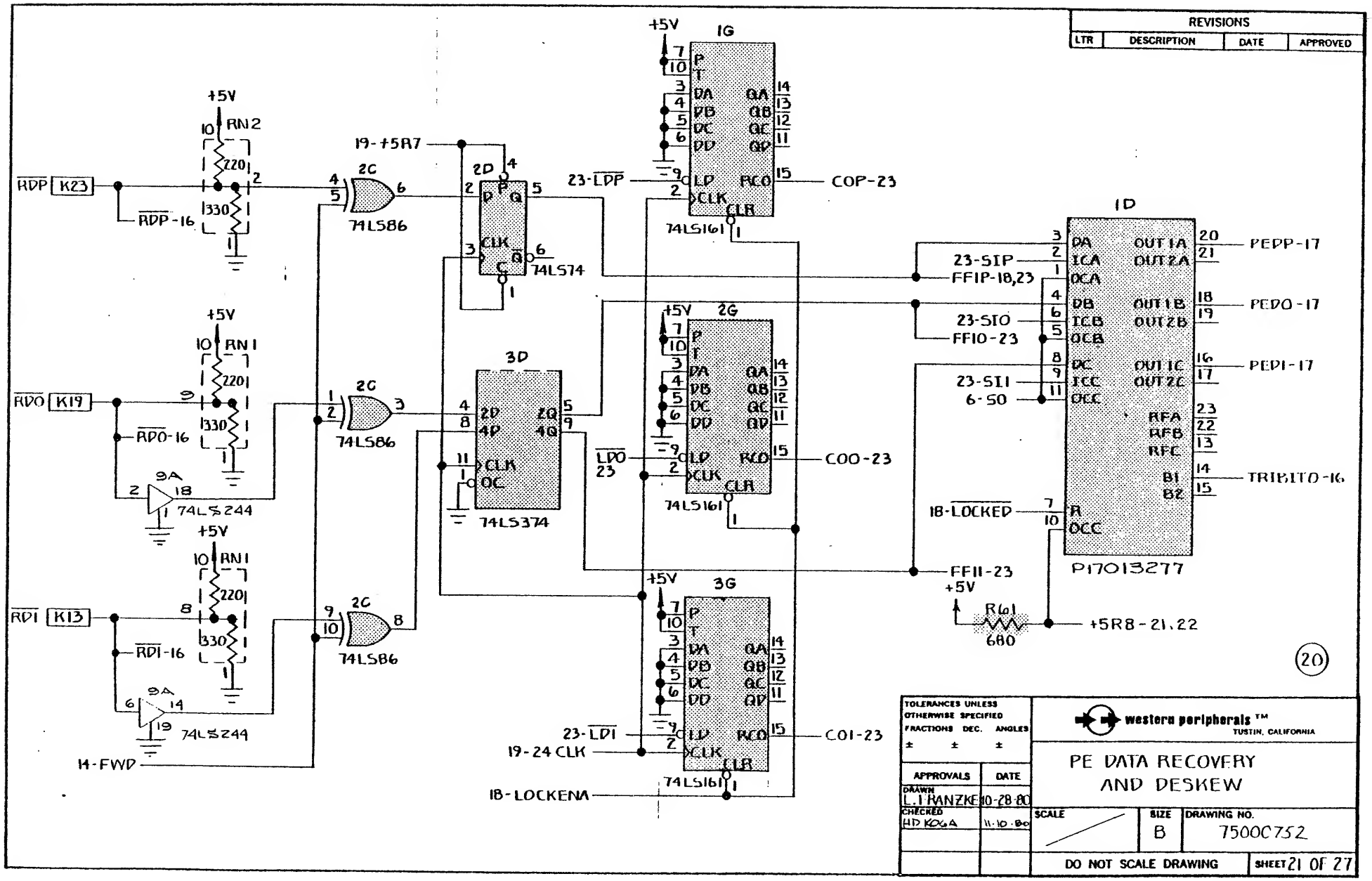
western peripherals ™ TUSTIN, CALIFORNIA

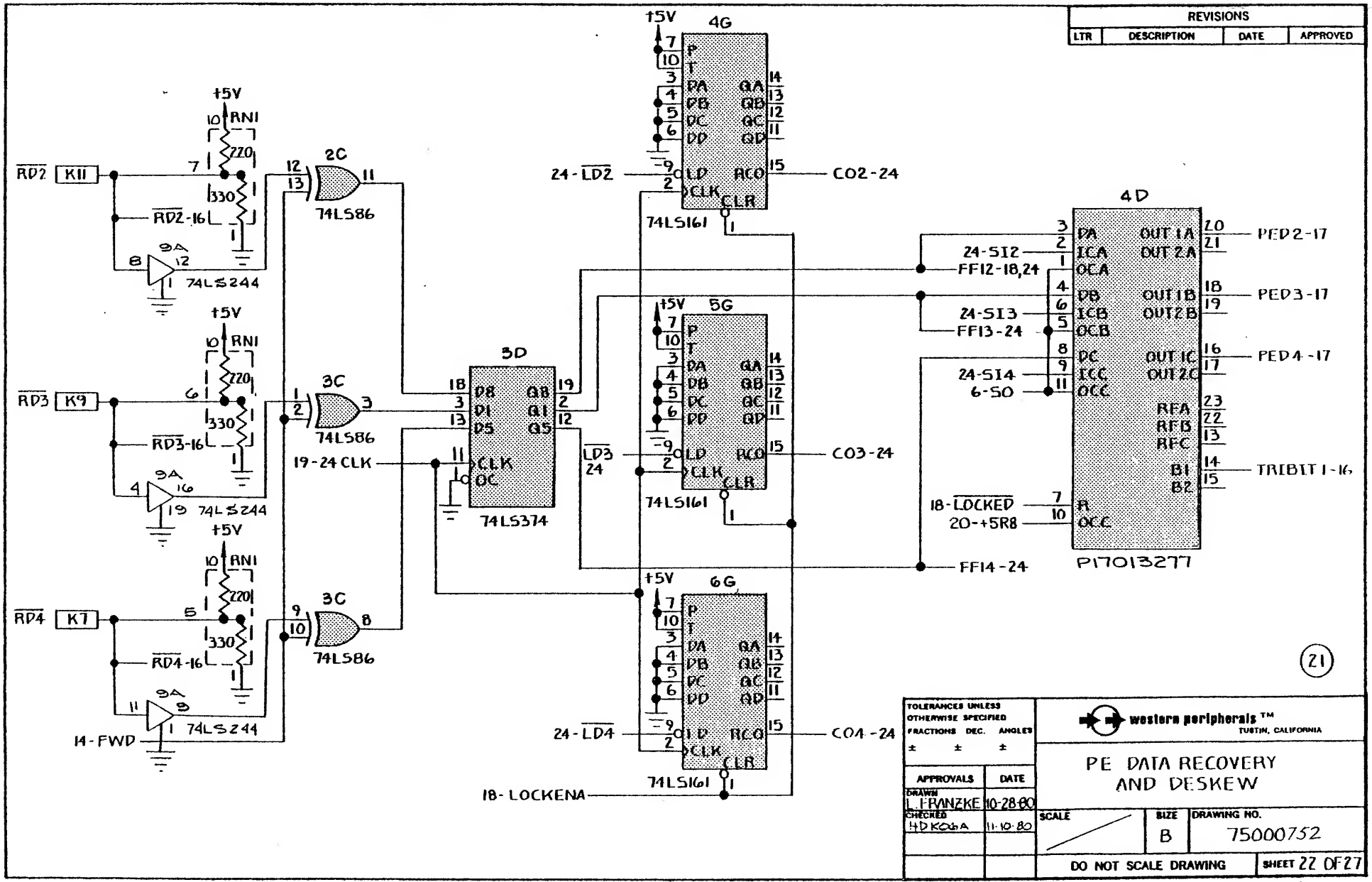
LOW PASS/FILTER/AMPLIFIER AND VCO SPEED CLOCK SELECT

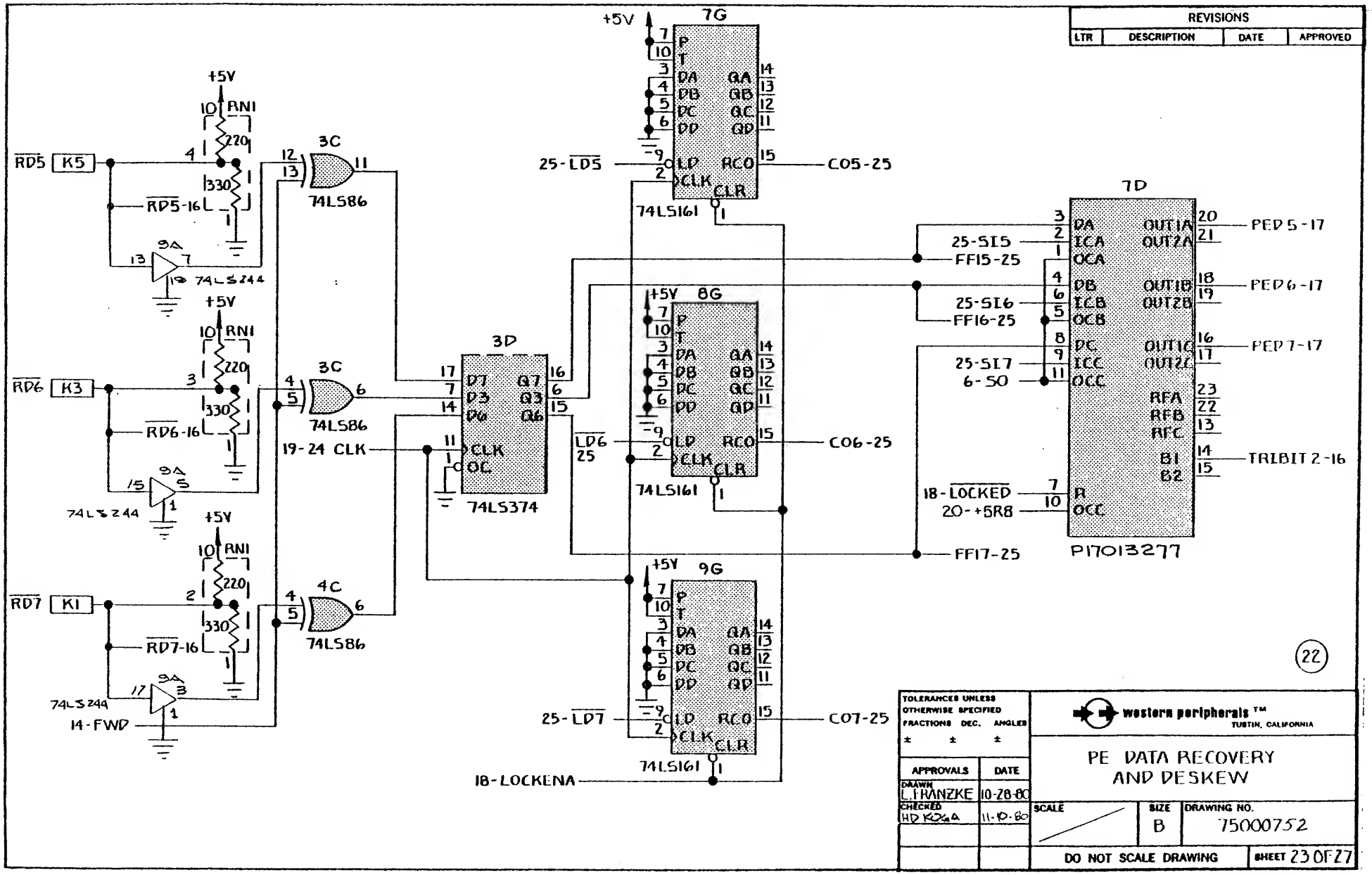
SCALE	SIZE	DRAWING NO.
	B	75000752

DO NOT SCALE DRAWING — SHEET 20 OF 27

504108 C

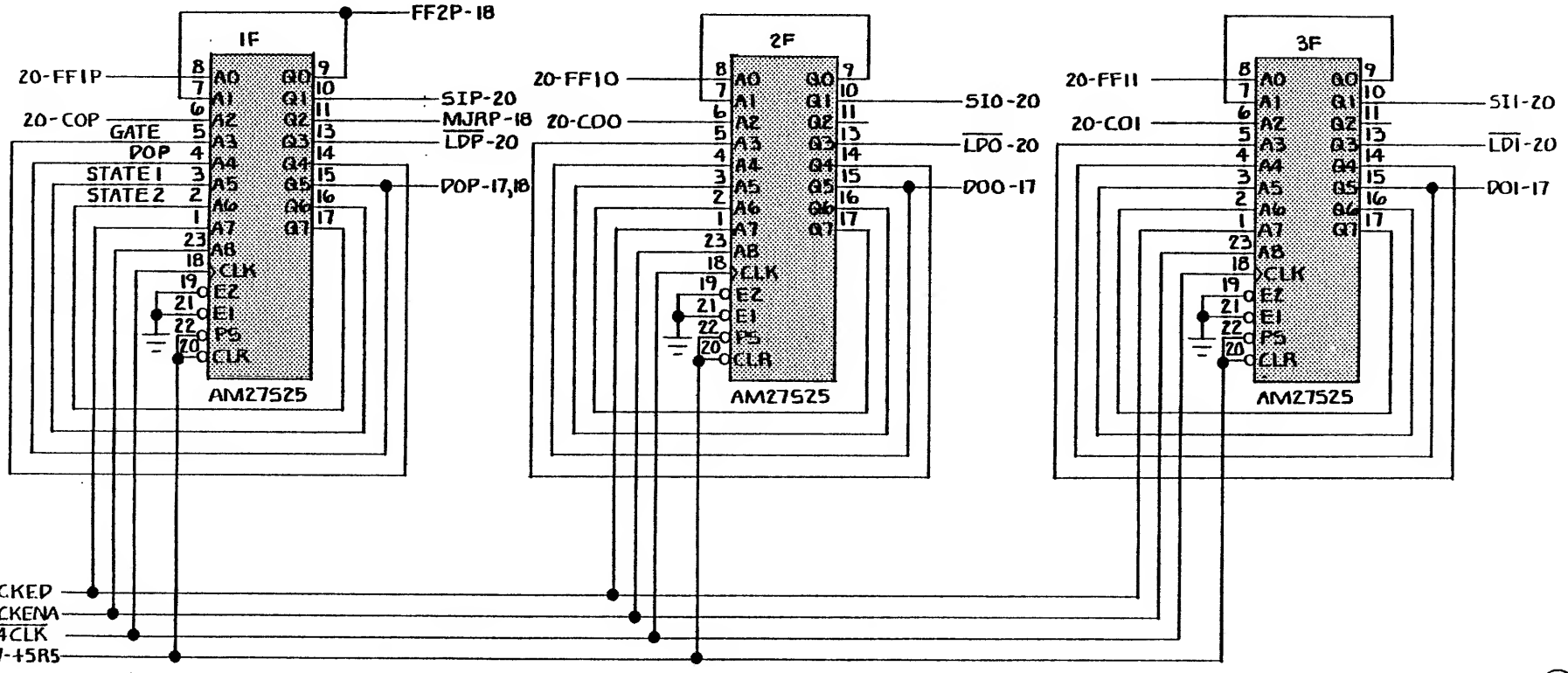

REVISIONS
LTR
DESCRIPTION
DATE
APPROVED
RDP
K23
RDP-16
RDO
K19
RDO-16
RDI
K13
RDI-16
14-FWD
RN2
RN1
220
330
74LS86
74LS244
74LS374
74LS161
74LS74
19-+5R7
23-LDP
COP-23
LDO
23
COO-23
23-LDI
19-24 CLK
CO1-23
18-LOCKENA
23-SIP
FFIP-18,23
23-SIO
FFIO-23
23-SII
6-SO
FFII-23
18-LOCKED
R61
680
+5R8-21,22
P17013277
PEPP-17
PEPO-17
PEPI-17
TRIBITO-16
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
APPROVALS
DATE
DRAWN
L. I RANZKE 10-28-80
CHECKED
HD KOGA 11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
PE DATA RECOVERY AND DESKEW
SCALE
SIZE
B
DRAWING NO.
75000752
DO NOT SCALE DRAWING
SHEET 21 OF 27
504108 C


REVISIONS
LTR
DESCRIPTION
DATE
APPROVED
RD2
K11
RD3
K9
RD4
K7
14-FWD
RN1
220
330
RD2-16
RD3-16
RD4-16
74LS244
74LS86
19-24 CLK
74LS374
5D
4G
5G
6G
74LS161
24-LD2
24-LD3
24-LD4
CO2-24
CO3-24
CO4-24
18-LOCKENA
4D
24-SI2
FF12-18,24
24-SI3
FF13-24
24-SI4
6-SO
FF14-24
18-LOCKED
20-+5R8
PED2-17
PED3-17
PED4-17
TRIBIT1-16
P17013277
21
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
APPROVALS
DATE
DRAWN
L. FRANZKE
10-28-80
CHECKED
HD KOCH
11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
PE DATA RECOVERY AND DESKEW
SCALE
SIZE
B
DRAWING NO.
75000752
DO NOT SCALE DRAWING
SHEET 22 OF 27
504108 C


REVISIONS
LTR
DESCRIPTION
DATE
APPROVED
+5V
RN1
220
330
RD5
K5
RD5-16
3C
74LS86
9A
74LS244
RD6
K3
RD6-16
RD7
K1
RD7-16
4C
14-FWD
3D
74LS374
19-24 CLK
7G
74LS161
25-LD5
CO5-25
8G
LD6
25
CO6-25
9G
25-LD7
CO7-25
18-LOCKENA
7D
P17013277
25-SI5
FF15-25
25-SI6
FF16-25
25-SI7
6-50
FF17-25
18-LOCKED
20-+5R8
PED 5-17
PED 6-17
PED 7-17
TRIBIT 2-16
22
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
APPROVALS
DATE
DRAWN
L. FRANZKE
10-28-80
CHECKED
HD KOGA
11-10-80
western peripherals ™
TUSTIN, CALIFORNIA
PE DATA RECOVERY AND DESKEW
SCALE
SIZE
B
DRAWING NO.
75000752
DO NOT SCALE DRAWING
SHEET 23 OF 27

504108 C

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



(23)

TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

APPROVALS	DATE
DRAWN L. FRANZKE	10-28-80
CHECKED HD KOGA	11-10-80

western peripherals ™ TUSTIN, CALIFORNIA

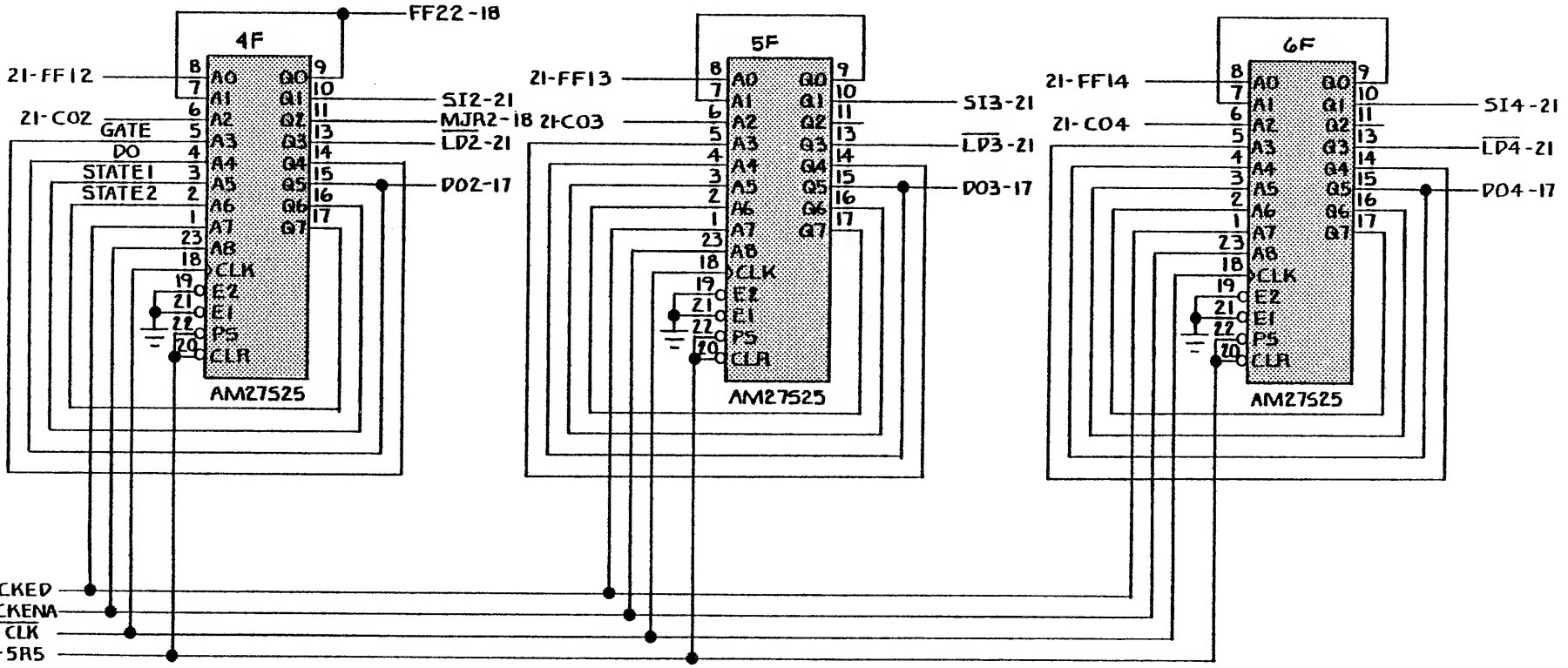
PE CHNL SEQ CTRL

SCALE	SIZE	DRAWING NO.
	B	75000752

DO NOT SCALE DRAWING — SHEET 24 OF 27

504108 C

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

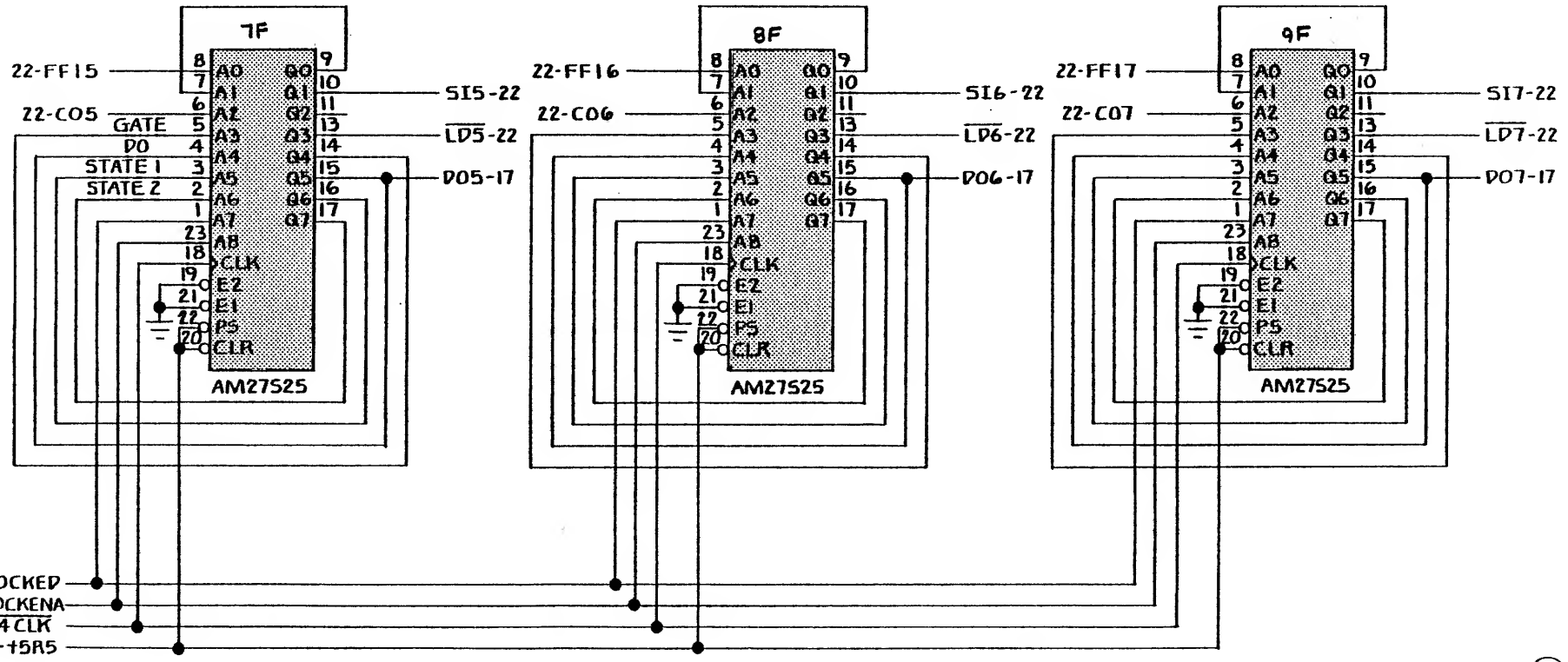


(24)

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS	DATE	PE CHNL SEQ CTRL	
DRAWN L. FRANZKE	10-28-80		
CHECKED HDICOG A	11-10-80	SCALE	SIZE B / DRAWING NO. 75000752
		DO NOT SCALE DRAWING	SHEET 25 OF 27

504108 C

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



(25)

TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

APPROVALS	DATE
DRAWN L. FRANZKE	10-28-80
CHECKED HDKOGA	11-10-80

western peripherals™ TUSTIN, CALIFORNIA

PE CHNL SEQ CTRL

SCALE | SIZE B | DRAWING NO. 75000752

DO NOT SCALE DRAWING | SHEET 26 OF 27

504108 C

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

(4) DEVICE ADDRESS
STD ADDR 772520_8

ADDR BIT	ADDR RANGE	E JUMPERS	STD ADDR	INSTALLED JUMPERS
17	1		1	
16	1		1	
15	1		1	
14	1		1	
13	1		1	
12	1		1	
11	0/1	28-20	0	X
10	0/1	27-19	1	
9	0/1	26-18	0	X
8	0/1	25-17	1	
7	0/1	24-16	0	X
6	0/1	23-15	1	
5	0/1	22-14	0	X
4	0/1	21-13	1	
3	X		X	
2	X		X	
1	X		X	
0	X		X	

INSTALL JUMPERS FOR "Ø's" IN DESIRED ADDR

(11) OSCILLATOR JUMPERS

OPERATION	E JUMPERS
TEST FIXTURE	E73 → E75
NORMAL	E74 → E75

(6) INTERRUPT PRIORITY LEVEL

BR4	BR5	BR6	BR7
E41 → E53	E43 → E55	E45 → E57	E47 → E59
E42 → E54	E44 → E56	E46 → E58	E48 → E60
E49 → E61	E50 → E62	E51 → E63	E52 → E64
E55 → E56	E53 → E54	E53 → E54	E53 → E54
E57 → E58	E57 → E58	E55 → E56	E55 → E56
E59 → E60	E59 → E60	E59 → E60	E57 → E58

(5) INTERRUPT VECTOR
STD VECTOR 224_8

VCTR BIT	E JUMPERS	STD VCTR	INSTALLED JUMPERS
7	40-34	1	
6	39-33	0	X
5	38-32	0	X
4	37-31	1	
3	36-30	0	X
2	35-29	1	
1		0	
0		0	

INSTALL JUMPERS FOR "Ø's" IN DESIRED VECTOR

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC. ± ANGLES ±		western peripherals™ TUSTIN, CALIFORNIA	
APPROVALS	DATE	SCHEMATIC TC-131 TAPE CONTROLLER	
DRAWN C. Espada	12-15-80		
CHECKED		SCALE /	SIZE B / DRAWING NO. 75000752
		DO NOT SCALE DRAWING	SHEET 27 OF 27

504108 C

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	3-24-81	dlz

PURPOSE

This modification provides capability to control 12.5 and 18.75 ips drives.

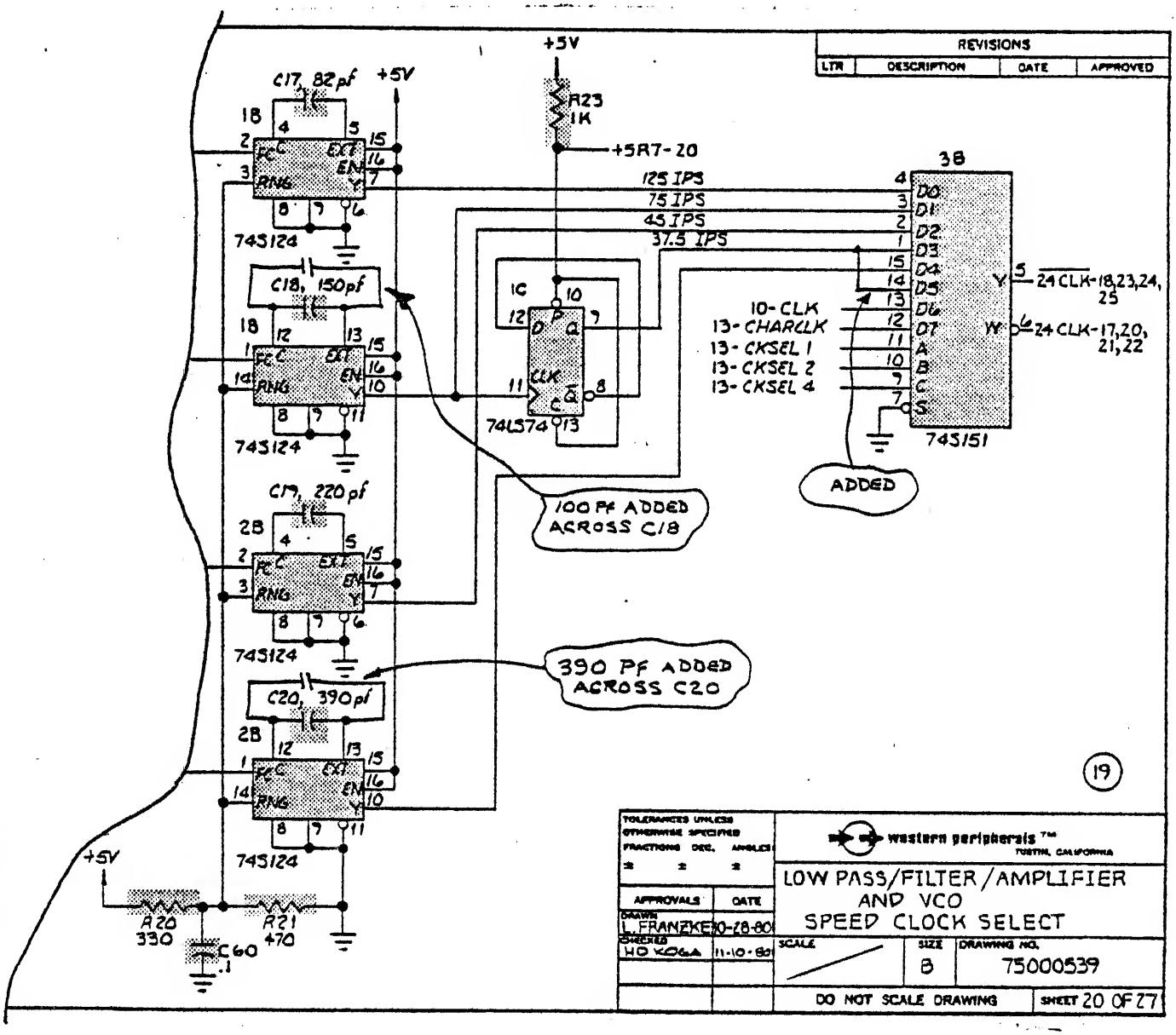
1. Rework TC131 Assy 60000601 as follows:
   a. Replace PROM in Location 27G with PROM P17017492
   b. Jumper 3B-1 to 3B-14
   c. Add 100 pf capacitor in parallel to existing capacitor C18
   d. Add 390 pf capacitor in parallel to existing capacitor C20
   e. Identify the Assy by marking "CONF A" on it using contrasting ink
2. For 12.5 ips drives, switch 4 on the tape control adapter at the drive end of the control cable must be open. Close it for 18.75 ips drives.
3. Material required:
   a. Prom P17017492
   b. 100 pf capacitor (W.P. P/N P15000136 or equivalent)
   c. 390 pf capacitor (W.P. P/N P15000243 or equivalent)
4. The resultant changes to the TC131 schematic Sht (19) are shown on Sht 2 of this drawing.

NOTE: FOR NRZ ONLY UNIT (TC131N), SEE MOD DWG 79000709

MAR 26 1981

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals ™ TUSTIN, CALIFORNIA		
APPROVALS	DATE	Modification Drawing - TC131 Configuration "A"		
DRAWN H. Deutsch	3-24-81			
CHECKED dlz	3-24-81	SCALE	SIZE A	DRAWING NO. 79000683
		DO NOT SCALE DRAWING		SHEET 1 OF 2

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC. ± ANGLES ±	western peripherals ™ TUSTIN, CALIFORNIA		
APPROVALS	DATE	LOW PASS/FILTER/AMPLIFIER AND VCO SPEED CLOCK SELECT	
DRAWN L. FRANZKE	10-28-80		
CHECKED HD KOGA	11-10-80	SCALE	SIZE B — DRAWING NO. 75000539
		DO NOT SCALE DRAWING	SHEET 20 OF 27

MAR 26 1981

SCALE	SIZE	DRAWING NO.
	A	79000683
DO NOT SCALE DRAWING		SHEET 2 OF 2

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	3-25-81	DSL

PURPOSE

This modification provides capability to control 12.5 and 18.75 ips drives.

1. Rework TC131N Assy 60000622 as follows:
   a. Replace PROM in location 27G with PROM P17017492.
   b. Identify the Assy by marking "CONF A" on it using contrasting ink.
2. For 12.5 ips drives, switch 4 on the tape control adapter at the drive end of the control cable must be open. Close it for 18.75 ips drives.
3. Material required:
   a. PROM P17017492

NOTE: FOR PHASE ENCODED UNIT, SEE MOD DWG. 79000683

MAR 26 1981

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC. ± ANGLES ±		western peripherals ™ TUSTIN, CALIFORNIA		
APPROVALS	DATE	Modification Drawing - TC131N Configuration "A"		
DRAWN L.CRAWFORD	3-25-81			
CHECKED W. Deutsch	3-25-81	SCALE	SIZE A	DRAWING NO. 79000709
		DO NOT SCALE DRAWING		SHEET 1 OF 1

DRAWN BY	DATE	CHECKED BY	DATE
L. Crawford	4-17-81		

REV F: Incorp. ECO 938
REV G: Incorp. ECO 947

BILL OF MATERIALS

western peripherals ™

DWG. NO.	REV
P18001313	G

TITLE: PROM Set, TC131, NRZ

SHT 1 OF 1

ITEM	QUAN	UNITS	PART NUMBER	REV	DESCRIPTION	"S" FOR SUB-ASSY	REF.DESIG.
01	1		P17019704		PROM, 27S19		27G
02	1		P17019712	D	PROM, 27S25		19B
03	1		P17019936	E	PROM, 27S25		21B
04	1		P17019720	D	PROM, 27S25		19C-A
05	1		P17019738	D	PROM, 27S25		19C-B
06	1		P17019746	E	PROM, 27S25		21C-A
07	1		P17019753	E	PROM, 27S25		21C-B
08	1		P17019779	D	PROM, 27S25		19D-A
09	1		P17019787	D	PROM, 27S25		19D-B
10	1		P17019795	E	PROM, 27S25		21D-A
11	1		P17019803	F	PROM, 27S25		21D-B
12	1		P17019811	D	PROM, 27S25		19E
13	1		P17019829	F	PROM, 27S25		21E
14	1		P17019928	B	PROM, 82S100		12C

JUN 12 1981

DRAWN BY	DATE	CHECKED BY	DATE
L. Crawford	4-17-81		

BILL OF MATERIALS

western peripherals ™

DWG. NO.	REV
P18001321	A

TITLE: PROM Set, TC131/151, PE

SHT 1 OF 1

ITEM	QUAN	UNITS	PART NUMBER	REV	DESCRIPTION	"S" FOR SUB-ASSY	REF.DESIG.
01	9		P17019837		PROM, 27S25		1F-9F(TC131), 1E-9E(TC151)
02	1		P17019761		PROM, 27S25		9D

MAY 11 1981

04/22/81 BILL OF MATERIAL TOP LEVEL ASSEMBLY LIST PAGE 1

ASSEMBLY NO. P60000601 REVISION A/F DESC: ASSY TC 101 TAPE CONTROLLER

SEQ	PART NUMBER	DESCRIPTION	CON QTY	HRS	SUB EXC L	LOCATION	EFF DATE
000	LSC	NO INVENTORY ITEM	117	.0			03/05/81
001	P17000027	IC 74LS00 QUAD 2 INP NAND	2	.0		17D,26E	01/05/81
002	P17000167	IC 74LS04 HEX INVERTER	1	.0		6B	01/05/81
003	P17000159	IC 74S04 HEX INVERTER	1	.0		26F	01/05/81
004	P17000233	IC 74LS08 QUAD 2 INP AND	3	.0		10A,5B,27C	01/05/81
005	P17000290	IC 74S10 TRIPLE 3 INP NAND	2	.0		25B,25E	01/05/81
006	P17000308	IC 74LS10 TRIPLE 3 INP NAND	1	.0		4B	01/05/81
007	P17000357	IC 74LS11 TRIPLE 3 INP AND	1	.0		11F	01/05/81
008	P17000498	IC 74LS14 HEX INVERTER ST	2	.0		18B,26B	01/05/81
009	P17000852	IC 74LS30 8 INP NAND	1	.0		14F	01/05/81
010	P17000910	IC 74LS32 QUAD 2 INP OR	3	.0		11B,5C,27E	01/05/81
011	P17001041	IC 7438 QUAD 2 INP NAND OC BUF	2	.0		15F,17F	01/05/81
012	P17001561	IC 74S74 FLIP/FLOP DUAL D	1	.0		23B	01/05/81
013	P17001579	IC 74LS74 FLIP/FLOP DUAL D	7	.0		5A,8A,1C,2D,	01/05/81
013	P17001579	IC 74LS74 FLIP/FLOP DUAL D	1 CON	.0		25D,20E,16F	01/05/81
014	P17001751	IC 74S86 QUAD 2 INP XOR	1	.0		19A	01/05/81
015	P17001769	IC 74LS86 QUAD 2 INP XOR	3	.0		2C,3C,4C	01/05/81
016	P17002155	IC 74LS123 ONE SHOT DUAL	2	.0		11A,8B	01/05/81
017	P17002171	IC 74S124 DUAL VOLT-CONT OSC	2	.0		1B,2B	01/05/81
018	P17002403	IC 74S138 DCDR/MUX 3-8 LINE	4	.0		24A,25C,20F,	01/05/81
018	P17002403	IC 74S138 DCDR/MUX 3-8 LINE	1 CON	.0		24F	01/05/81
019	P17002411	IC 74LS138 DCDR/MUX 3-8 LINE	1	.0		25D	01/05/81
020	P17002551	IC 74148 8-3 LINE ENCODER	1	.0		26B	01/05/81
021	P17002577	IC 74S151 SEL/MUX 1 OF 8 LN	1	.0		3B	01/05/81
022	P17002627	IC 74LS153 SEL/MUX DUAL 4-1	3	.0		6A,10F,27F	01/05/81
023	P17002767	IC 74LS157 SEL/MUX QUAD 2-1	1	.0		24B	01/05/81
024	P17002825	IC 74S158 SEL/MUX QUAD 2-1	1	.0		26C	01/05/81
025	P17002890	IC 74LS161 CNTR 4 BIT BINARY	13	.0		7A,22F,10-9B	01/05/81
025	P17002890	IC 74LS161 CNTR 4 BIT BINARY	1 CON	.0		25B,26B	01/05/81
026	P17003229	IC 74LS174 FLIP/FLOP HEX TYP D	1	.0		10E	01/05/81
027	P17003641	IC 74S240 DRVR/RCVR OCTAL BFR	3	.0		14A,12B,14B	01/05/81
028	P17003690	IC 74LS244 DRVR/RCVR OCTAL BFR	8	.0		25A,9B,7C,8C	01/05/81
028	P17003690	IC 74LS244 DRVR/RCVR OCTAL BFR 1	CON	.0		24C,18F,20F,	01/05/81
028	P17003690	IC 74LS244 DRVR/RCVR OCTAL BFR 2	CON	.0		20B	01/05/81
029	P17003757	IC 74S251 DATA SEL/MUX	3	.0		17A,15B,16B	01/05/81
030	P17003898	IC 74LS259 8 BIT ADDRSSBLE LCH	2	.0		26A,22E	01/05/81
031	P17003963	IC 74265 QUAD COMP-OUTPUT GATE	1	.0		22B	01/05/81
032	P17004003	IC 74276 QUAD J-K FLIP/FLOP	2	.0		12A,4C	01/05/81
033	P17004110	IC 74LS280 9BIT PRTY GEN/CHECK	1	.0		11C	01/05/81
034	P17005141	IC 74LS373 OCTAL D TYPE LATCH	2	.0		10B,10C	01/05/81
035	P17005133	IC 74LS374 OCTAL TYPE D F/F	7	.0		13A,15A,14A,	01/05/81
035	P17005133	IC 74LS374 OCTAL TYPE D F/F	1 CON	.0		13B,9C,9B,	01/05/81
035	P17005133	IC 74LS374 OCTAL TYPE D F/F	2 CON	.0		2/0	01/05/81
036	P17005372	IC 74LS293 DUAL 4 BIT BIN CNTR	1	.0		7B	01/05/81
037	P17006214	IC 74LS670 4 X 4 REG FILES	2	.0		24D,24F	01/05/81
038	P17009853	IC 2901B 4 BIT SLICE	6	.0		13C,15C,17C,	01/05/81
038	P17009853	IC 2901B 4 BIT SLICE	1 CON	.0		19C	01/05/81
039	P17009887	IC 2908 QUAD BUS TRANSCEIVER	4	.0		11D THRU 17D,	01/05/81
040	P17009907	IC 2910 MICROPROGRAM CNTRLR	1	.0		17A	01/05/81
041	P17010893	IC DC 3491P QUAD OP AMP	1	.0		1A	01/05/81
042	P17008244	IC 8640 QUAD LINE RCVR	1	.0		1B	01/05/81
043	P17008951	IC 8641 QUAD LINE XCVR(LC)	1	.0		1C	01/05/81

OUTSTANDING CHANGE ORDERS

904A 930

915A 938

921B 947

924

JUL 16 1981

ASSEMBLY NO. P60000601 REVISION F DESC: ASSY TC 131 TAPE CONTROLLER

SEQ	PART NUMBER	DESCRIPTION	CON	QTY	HRS	SUB	EXC	L	LOCATION	EFF DATE
044	P17008889	IC 9423 64 X 4 FIFO		2	.0				21F,21G	01/05/81
045	P17015009	IC NE555 TIMER		1	.0				12E	01/05/81
046	P17009085	IC 25LS2521 8 BIT COMPARATOR		1	.0				12F	01/05/81
047	P17009705	IC 27S19 256 BIT PROM		1	.0				RAW PROM	03/05/81
048	P17009754	IC 27S25 512 X 8 REG PROM		22	.0				RAW PROMS	03/05/81
049	P17015280	IC 82S100 BIPOLAR FPLA 16X48X8		1	.0				RAW PROM	03/05/81
050		NO INVENTORY ITEM			.0					03/05/81
051		NO INVENTORY ITEM			.0					03/05/81
052		NO INVENTORY ITEM			.0					03/05/81
053		NO INVENTORY ITEM			.0					03/05/81
054		NO INVENTORY ITEM			.0					03/05/81
055		NO INVENTORY ITEM			.0					03/05/81
056		NO INVENTORY ITEM			.0					03/05/81
057		NO INVENTORY ITEM			.0					03/05/81
058		NO INVENTORY ITEM			.0					03/05/81
059		NO INVENTORY ITEM			.0					03/05/81
060		NO INVENTORY ITEM			.0					03/05/81
061		NO INVENTORY ITEM			.0					03/05/81
062		NO INVENTORY ITEM			.0					01/20/81
063		NO INVENTORY ITEM			.0					01/20/81
064		NO INVENTORY ITEM			.0					01/28/81
065		NO INVENTORY ITEM			.0					01/28/81
066		NO INVENTORY ITEM			.0					01/28/81
067		NO INVENTORY ITEM			.0					01/28/81
068		NO INVENTORY ITEM			.0					01/28/81
069		NO INVENTORY ITEM			.0					01/28/81
070		NO INVENTORY ITEM			.0					03/05/81
071	P17013269	IC SSI DESKEW/QUEUE REGISTER		3	.0				1D,4D,7D	01/05/81
072	P22000103	OSC K1114A 7.2 MHZ		1	.0				Y1	01/05/81
073	P22000186	OSC K1114A 10MHZ		1	.0				Y2	01/05/81
074	P14000251	RES 100 OHM 1/4W 5% RC07GF101J		2	.0				R18,R37	01/05/81
075	P14000293	RES 180 OHM 1/4W 5% RC07GF181J		7	.0				R26,R34,R36,	01/05/81
075	P14000293	RES 180 OHM 1/4W 5% RC07GF181J	1	CON	.0				R49,R59,R60,	01/05/81
075	P14000293	RES 180 OHM 1/4W 5% RC07GF181J	2	CON	.0				R62	01/05/81
076	P14000350	RES 330 OHM 1/4W 5% RC07GF331J		3	.0				R14,R15,R20	01/05/81
077	P14000376	RES 390 OHM 1/4W 5% RC07GF391J		2	.0				R35,R37	01/05/81
078	P14000392	RES 470 OHM 1/4W 5% RC07GF471J		1	.0				R21	01/05/81
079	P14000426	RES 680 OHM 1/4 W RC07GF681J		20	.0				R9,R12,R13,	01/05/81
079	P14000426	RES 680 OHM 1/4 W RC07GF681J	1	CON	.0				R16,R17,R19,	01/05/81
079	P14000426	RES 680 OHM 1/4 W RC07GF681J	2	CON	.0				R22,R24,R25,	01/05/81
079	P14000426	RES 680 OHM 1/4 W RC07GF681J	3	CON	.0				R27,R29,R31,	01/05/81
079	P14000426	RES 680 OHM 1/4 W RC07GF681J	4	CON	.0				R32,R33,R38,	01/05/81
079	P14000426	RES 680 OHM 1/4 W RC07GF681J	5	CON	.0				R40,R41,R42,	01/05/81
079	P14000426	RES 680 OHM 1/4 W RC07GF681J	6	CON	.0				R43,R61	01/05/81
080	P14000467	RES 1K OHM 1/4W 5% RC07GF102J		9	.0				R5,R7,R8,R23	01/05/81
080	P14000467	RES 1K OHM 1/4W 5% RC07GF102J	1	CON	.0				R44 THRU R48	01/05/81
081	P14000509	RES 1.5K 1/4W 5% RC07GF152J		3	.0				R1,R2,R4	01/05/81
082	P14000541	RES 2.4K 1/4W 5% RC07GF242J		1	.0				R17	01/05/81
083	P14000558	RES 2.7K 1/4W 5% RC07GF272J		2	.0				R54,R55	01/05/81
084	P14000608	RES 4.3K 1/4W 5% RC07GF432J		1	.0				R58	01/05/81
085	P14000616	RES 4.7K 1/4W 5% RC07GF472J		2	.0				R10,R56	01/05/81
086	P14000640	RES 6.8K 1/4W 5% RC07GF682J		2	.0				L.O.,R53	01/05/81

JUL 16 1981

ASSEMBLY NO. P60000601 REVISION #F DESC: ASSY TC 131 TAPE CONTROLLER

SEQ	PART NUMBER	DESCRIPTION	CON QTY	HRS	SUB	EXC	LOCATION	EFF DATE
087	P14000756	RES. 150K 1/4 W RC07GF154J	1	.0			R11	01/05/81
088	P14000806	RES. 470K 1/4 W RC07GF474J	6	.0			R3,R6,R29,	01/05/81
088	P14000806	RES. 470K 1/4 W RC07GF474J	1 CON	.0			R30,R53,R56	01/05/81
089	P14000863	RES. 1 MEG 1/4 W RC07GF105J	1	.0			R49	01/05/81
090	P14004311	RESP 10PIN 785-5-R220/330	3	.0			RN1,RN2,RN3	01/05/81
091	P14004485	RESP 10PIN 785-1-R1K	2	.0			RN4,RN5	01/05/81
092	P11000007	DIO IN914A SIGNAL HIGH SPEED	8	.0			CR1 THRU CR8	01/05/81
093	P15000128	CAP 82PF 500V CM05ED820J03	1	.0			C17	01/05/81
094	P15005127	CAP 150PF CN05ED151J03	1	.0			C18	01/05/81
095	P15005184	CAP 220PF CN05ED221J03	4	.0			C12,C13,C19,	01/05/81
095	P15005184	CAP 220PF CN05ED221J03	1 CON	.0			C35	01/05/81
096	P15000250	CAP 390PF 500V CM05ED391J03	1	.0			C20	01/05/81
097	P15000631	CAP 4700PF 100V CK05BX472K	1	.0			C7	01/05/81
098	P15000672	CAP 5600PF 100V CK05BX562K	2	.0			C1,C6	01/05/81
099	P15000714	CAP 6800PF 50V CK05BX682K	1	.0			C4	01/05/81
100	P15000490	CAP .001MF 200V CK05BX102K	4	.0			C32,C44,C46,	01/05/81
100	P15000490	CAP .001MF 200V CK05BX102K	1 CON	.0			C48	01/05/81
101	P15000763	CAP .01MF 100V CK05BX103K	1	.0			C35	01/05/81
102	P15000805	CAP .056MF 50V CK05BX563K	1	.0			C2	01/05/81
103	P15000821	CAP .068MF 50V CK05BX683K	2	.0			C5,C8	01/05/81
104	P15000870	CAP .082MF 50V CK05BX823K	1	.0			C3	01/05/81
105	P15000904	CAP .1MF 50V CK05BX104K	6	.0			C36,C56 THRU	01/05/81
105	P15000904	CAP .1MF 50V CK05BX104K	1 CON	.0			C60	01/05/81
106	P15002348	CAP 4.7MF 10V 150D475X9010A2	34	.0			C9,C10,C11,	01/05/81
106	P15002348	CAP 4.7MF 10V 150D475X9010A2	1 CON	.0			C14,C15,C16,	01/05/81
106	P15002348	CAP 4.7MF 10V 150D475X9010A2	2 CON	.0			C21 THRU C31	01/05/81
106	P15002348	CAP 4.7MF 10V 150D475X9010A2	3 CON	.0			C33,C34,C37	01/05/81
106	P15002348	CAP 4.7MF 10V 150D475X9010A2	4 CON	.0			THRU C43,C45	01/05/81
106	P15002348	CAP 4.7MF 10V 150D475X9010A2	5 CON	.0			C47,C49 THRU	01/05/81
106	P15002348	CAP 4.7MF 10V 150D475X9010A2	6 CON	.0			C54	01/05/81
107	P20000147	SW 8 PIN DIP 206-4	1	.0			28G	01/05/81
108	P21000062	LED 555-2003[DIALCO]	5	.0			LED1-LED5	01/05/81
109	P23007180	CONN IC SKT 8P DILB-8-P-108	12	.0			19B,21B,	01/28/81
109	P23007180	CONN IC SKT 8P DILB-8-P-108	1 CON	.0			19C-A,19C-B,	01/28/81
109	P23007180	CONN IC SKT 8P DILB-8-P-108	2 CON	.0			21C-A,21C-B,	01/28/81
109	P23007180	CONN IC SKT 8P DILB-8-P-108	3 CON	.0			19D-A,19D-B,	01/28/81
109	P23007180	CONN IC SKT 8P DILB-8-P-108	4 CON	.0			21D-A,21D-B,	02/03/81
109	P23007180	CONN IC SKT 8P DILB-8-P-108	5 CON	.0			19E,21E	02/03/81
110	P23007198	CONN IC SKT 16P DILB-16-P-108	12	.0			19B,21B,	01/28/81
110	P23007198	CONN IC SKT 16P DILB-16-P-108	1 CON	.0			19C-A,19C-B,	01/28/81
110	P23007198	CONN IC SKT 16P DILB-16-P-108	2 CON	.0			21C-A,21C-B,	01/28/81
110	P23007198	CONN IC SKT 16P DILB-16-P-108	3 CON	.0			19D-A,19D-B,	01/28/81
110	P23007198	CONN IC SKT 16P DILB-16-P-108	4 CON	.0			21D-A,21D-B,	02/03/81
110	P23007198	CONN IC SKT 16P DILB-16-P-108	5 CON	.0			19E,21E	02/03/81
111	P23000383	CONN IC SKT 28P IEW3700-2800	1	.0			12C	01/05/81
112	P26002733	W/W POST STRIP, BERG 65500-104	20	.0			E1 THRU E20	01/05/81
113	P03300175-01	SPEC CARD PULL MOD WIR	3	.0				01/05/81
114	P42000133	EYELET, SE-47 BRASS	6	.0				01/05/81
115	P76000520-B	PWB TC131 TAPE CONTROLLER	1	.0				04/21/81
116	P75000539	SCH TC131 TAPE CONTROLLER	REF	.0				01/05/81
117	P17003666	IC 74LS240 OCTAL BUFFER 3 ST	1	.0			U26	01/05/81
118	P18001313	PROT PROM SET TC131	REF	.0				01/05/81

ASSEMBLY NO. P60000601 REVISION F DESC: ASSY TC 131 TAPE CONTROLLER

SEQ	PART NUMBER	DESCRIPTION	CON QTY	HRS	SUB	EXC	L	LOCATION	EFF DATE
119	P19001321	PRST, TC131/151, PE	REF	.0					03/05/81

JUL 16 1981

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ENGINEERING CHANGE REQUEST/ORDER

SHEET 1 OF 1 | CANCELLED BY E.C.O. NO. | E.C.O. NO. 904 | REV A

APPROVAL

		DATE
CHANGE CHAIRMAN		4/28-81
PRODUCT ENG'R		
MFG.		4/24/81
Q.C.		4/28
MKTG.		4-28
TECH SUPPORT		4-27

ORIGINATOR: R ANDERSON | MGR:

DRAWN BY: ROGER ANDERSON | 4-23-81

CHANGE TYPE

- ☐ DESIGN IMPROVEMENT
- ☒ IN-LINE
- ☐ MANDATORY
- ☐ RECORD ONLY
- ☐

DISPOSITION

- ☐ NO AFFECT
- ☒ USE AS IS
- ☐ SCRAP
- ☐ REWORK
- ☒ RETROFIT AS REQ'D

- ☐ NON-INTERCHANGEABLE
- ☒ 1-WAY INTERCHANGEABLE
- ☐ 2-WAY INTERCHANGEABLE
- ☐ PROD. IMPROV. BULLETIN REQ'D
- ☐ MFG. WORK SHEET ON FILE

EFFECTIVITY (DATE OR 1ST SERIAL NO.)

SERIAL NO. 336

DRAWINGS AFFECTED	OLD REV	NEW REV	DATE INCORP
TC-131			
ASSY 60000601	G	H	
B/M 60000601	G	H	
ASSY 60000692	F	G	
B/M 60000692	F	G	
PWM (ARTWORK) 76000520	B	TBD	
PWB (FAB) 76000520	B	TBD	

REASON FOR CHANGE (USE ATTACHMENTS IF NECESSARY)

SYMPTOM:

FIELD SELECTION JUMPERS-IN-ETCH ARE INACCESSABLE

PROBLEM:

INDIVIDUAL WIRE-WRAP POSTS WERE REPLACED BY WIRE-WRAP POST STRIPS WHICH NOW COVER THE ETCH JUMPERS.

SOLUTION:

RELOCATE THESE JUMPERS TO THE SOLDER SIDE OF THE BOARD

DETAILED DESCRIPTION OF CHANGE TO AFFECTED DOCUMENTS AND/OR PARTS (USE CONTINUATION SHTS, IF REQ'D, TO SHOW REWORK, SCHEMATIC CHANGES, ASSY CHANGES, B/M CHANGES, ETC.)

ON PWM. 7600 0520 – MOVE THE FOLLOWING ETCH JUMPERS FROM THE COMPONENT SIDE TO THE SOLDER SIDE OF THE BOARD:

E 44 TO E 56, E 57 TO E 58

REV A CHANGES REV LTR OF DWGS
CC 5-6-81 Q.C.
ENG MKTG.
MFG T.S.

ON PWB. 76000520 - CUT THE ETCH JUMPERS LISTED ABOVE BEFORE INSTALLING COMPONENTS. REPLACE WITH WIRE-WRAP JUMPERS. (REWORK UNTIL NEW BOARDS ARE AVAILABLE.)

JUL 16 1981

ON ASSY 60000601 & 60000692

UPGRADE REV LTR TO REFLECT THE CHANGE ON THIS ECO

COORDINATE WITH ECO 897

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ENGINEERING CHANGE REQUEST/ORDER

SHEET 1 OF 1

CANCELLED BY E.C.O. NO.

E.C.O. NO. 915

REV A

APPROVAL

		DATE
CHANGE CHAIRMAN	Paul S Gledvig	5-5-81
PRODUCT ENG'R	[illegible]	5/5/81
MFG	B Middleton	5-5-81
Q.C.	Andy Cullare	5/5/81
MKTG.		
TECH SUPPORT	L. MacAllister	5/5

ORIGINATOR: D. GLEDVIG

MGR:

DRAWN BY: B. MIDDLETON — 5-4-81

CHANGE TYPE

- ☐ DESIGN IMPROVEMENT
- ☒ IN-LINE
- ☐ MANDATORY
- ☐ RECORD ONLY
- ☐ _____

DISPOSITION

- ☐ NO AFFECT
- ☒ USE AS IS
- ☐ SCRAP
- ☐ REWORK
- ☒ RETROFIT AS REQ'D

- ☐ NON-INTERCHANGEABLE
- ☒ 1-WAY INTERCHANGEABLE
- ☐ 2-WAY INTERCHANGEABLE
- ☐ PROD. IMPROV. BULLETIN REQ'D
- ☐ MFG. WORK SHEET ON FILE

EFFECTIVITY (DATE OR 1ST SERIAL NO.)
ALL UNITS NOT IN Finished Goods AS OF 5-6-81

DRAWINGS AFFECTED	OLD REV	NEW REV	DATE INCORP
TC131/131N			
ASSY 60000601	F	G	
B/M 60000601	F	G	
ASSY 60000692	E	F	
B/M 60000692	E	F	

REASON FOR CHANGE (USE ATTACHMENTS IF NECESSARY)

SYMPTOM:

THE BOARD IS NOT 100% COMPATABLE WITH OUR TESTER

PROBLEM: TIMER FREQUENCY WILL NOT RUN AT THE CORRECT SPEED TO READ CERTAIN DEC DIAGNOSTICS.

SOLUTION:

REPLACE THE RESISTORS @ LOCATIONS R29 & R30 TO CORRECT SPEED

DETAILED DESCRIPTION OF CHANGE TO AFFECTED DOCUMENTS AND/OR PARTS (USE CONTINUATION SHTS, IF REQ'D, TO SHOW REWORK, SCHEMATIC CHANGES, ASSY CHANGES, B/M CHANGES, ETC.)

1) ON ASSY & B/M 60000601 JUL 16 1981

ITEM 88 - QTY IS 6 S/B 4 - DELETE LOCATIONS R29 & 30

ITEM 78 - QTY IS 1 S/B 3 - ADD LOCATIONS R29 & 30

2) ON ASSY & B/M 60000692

ITEM 69 - P/N IS P14000806 S/B P14000392

REV A CHANGES DWG NO REV LTRS.

CC. [illegible] 5-6-81

ENG [illegible]

MFG [illegible]

Q.C. [illegible]

MKTG [illegible]

T.S. [illegible]

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ENGINEERING CHANGE REQUEST/ORDER

SHEET 1 OF 1 | CANCELLED BY E.C.O. NO. | E.C.O. NO. 921 | REV B

APPROVAL

		DATE
CHANGE CHAIRMAN	[signature]	5/12/81
PRODUCT ENG'R		
MFG	[signature]	5/12/81
Q.C.	[signature]	5/12/81
MKTG.	[signature]	5-12-81
TECH SUPPORT	[signature]	5/12

ORIGINATOR: D. GREDVIG | MGR:

DRAWN BY: B. MIDDLETON | 5-11-81

CHANGE TYPE
- ☐ DESIGN IMPROVEMENT
- ☒ IN-LINE
- ☐ MANDATORY
- ☐ RECORD ONLY
- ☐ _____

DISPOSITION
- ☐ NO AFFECT
- ☐ USE AS IS
- ☐ SCRAP
- ☐ REWORK
- ☒ RETROFIT AS REQ'D

- ☐ NON-INTERCHANGEABLE
- ☒ 1-WAY INTERCHANGEABLE
- ☐ 2-WAY INTERCHANGEABLE
- ☐ PROD. IMPROV. BULLETIN REQ'D
- ☐ MFG. WORK SHEET ON FILE

EFFECTIVITY (DATE OR 1ST SERIAL NO.)
ALL UNITS IN HOUSE / RETROFIT AS REQD. (FIELD RTN'S)

DRAWINGS AFFECTED	OLD REV	NEW REV	DATE INCORP
TC131			
ASSY 60000601	H	J	
B/M 60000601	H	J	

REASON FOR CHANGE (USE ATTACHMENTS IF NECESSARY)

SYMPTOM:
EXCESSIVE P.E. READ PARITY ERRORS WITH CERTAIN DRIVES - I.E. CIPHER

PROBLEM:
HIGH NOISE LEVELS ON THE READ SIGNALS TO THE 74LS86 I.C.'S AT 2C, 3C, 4C

SOLUTION:
SELECT 74LS86 I.C.'S WITH THRESHOLD LEVELS ON THE HIGH END OF MFGR'S SPEC.

DETAILED DESCRIPTION OF CHANGE TO AFFECTED DOCUMENTS AND/OR PARTS (USE CONTINUATION SHTS, IF REQ'D, TO SHOW REWORK, SCHEMATIC CHANGES, ASSY CHANGES, B/M CHANGES, ETC.)

1.) PRE-TEST 74LS86 I.C.'S TO THE HIGH THRESHOLD (1.2 VOLTS) THOSE PARTS THAT PASS MUST BE IDENTIFIED WITH A NEW P/N - P17001777

2) ON ASSY & B/M —
ITEM 15 IS P17001769
SIB P17001777

REV B CHANGES EFFECTIVITY TO ALL UNITS
CC. [signature]
MFG [signature]
Q.C. [signature]
MTG D. Smith
T.S [signature] 5/5/81

REV A CORRECTS DWGS. AFFECTED BY ELIMINATING 60000692 131 N
CC. [signature]
MFG [signature]
Q.C. [signature] JUL 16 1981
MTG [signature]
T.S [signature]

western peripherals ™

ENGINEERING CHANGE REQUEST/ORDER

SHEET 1 OF 1
CANCELLED BY E.C.O. NO.

E.C.O. NO. 924 REV

APPROVAL

		DATE
CHANGE CHAIRMAN		5/2/81
PRODUCT ENG'R		
MFG.		5/12/81
Q.C.		5/12/81
MKTG.		5-12-81
TECH SUPPORT		5-12

ORIGINATOR: R. SHEFFER
MGR:
DRAWN BY: GARY WOOD — 5.8.81

CHANGE TYPE

- ☐ DESIGN IMPROVEMENT
- ☐ IN-LINE
- ☐ MANDATORY
- ☑ RECORD ONLY
- ☐ _____

DISPOSITION

- ☐ NO AFFECT
- ☑ USE AS IS
- ☐ SCRAP
- ☐ REWORK
- ☐ RETROFIT AS REQ'D

- ☐ NON-INTERCHANGEABLE
- ☑ 1-WAY INTERCHANGEABLE
- ☐ 2-WAY INTERCHANGEABLE
- ☐ PROD. IMPROV. BULLETIN REQ'D
- ☐ MFG. WORK SHEET ON FILE

EFFECTIVITY (DATE OR 1ST SERIAL NO.)

NO EFFECT (R/C ONLY)

DRAWINGS AFFECTED	OLD REV	NEW REV	DATE INCORP
TC 131			
ASSY 60000601	J	J1	
B/M 60000601	J	J1	

REASON FOR CHANGE (USE ATTACHMENTS IF NECESSARY)

SYMPTOM:

PULLING INCORRECT FOR KITS.

PROBLEM:

B/M CALLS OUT RAW PROMS ON PROM WHICH ARE STOCKED AS BLOWN PROMS.

SOLUTION:

CORRECT B/M TO SHOW P/N OF BLOWN PROMS.

DETAILED DESCRIPTION OF CHANGE TO AFFECTED DOCUMENTS AND/OR PARTS (USE CONTINUATION SHTS, IF REQ'D, TO SHOW REWORK, SCHEMATIC CHANGES, ASSY CHANGES, B/M CHANGES, ETC.)

PG0000601

1.) ITEM 48:

	15 QTY.	S/B QTY.
	22	13

2.) ADD ITEM 50:

QTY.	PART NO.	LOCATION
9	P17015837	1F - 9F

JUL 16 1981

western peripherals ™

ENGINEERING CHANGE REQUEST/ORDER

SHEET 1 OF 1 | CANCELLED BY E.C.O. NO. |

E.C.O. NO. 930 | REV

APPROVAL

		DATE
CHANGE CHAIRMAN		5-15-81
PRODUCT		
ENG'R		5-15-81
MFG		5/15/81
Q.C.		5/15/81
MKTG.		
TECH SUPPORT	L. MacAllister	5-15

ORIGINATOR: D. GREDVIG | MGR:

DRAWN BY: B. MIDDLETON

CHANGE TYPE

- ☐ DESIGN IMPROVEMENT
- ☒ IN-LINE
- ☐ MANDATORY
- ☐ RECORD ONLY
- ☐ _____

DISPOSITION

- ☐ NO AFFECT
- ☐ USE AS IS
- ☐ SCRAP
- ☐ REWORK
- ☒ RETROFIT AS REQ'D

- ☐ NON-INTERCHANGEABLE
- ☒ 1-WAY INTERCHANGEABLE
- ☐ 2-WAY INTERCHANGEABLE
- ☐ PROD. IMPROV. BULLETIN REQ'D
- ☐ MFG. WORK SHEET ON FILE

EFFECTIVITY (DATE OR 1ST SERIAL NO.)

S/N 0336

DRAWINGS AFFECTED	OLD REV	NEW REV	DATE INCORP
TC131			
ASSY 60000601	J1	K	
B/M 60000601	J1	K	

REASON FOR CHANGE (USE ATTACHMENTS IF NECESSARY)

SYMPTOM:

VCO CLOCK WILL NOT LOCK ON, CAUSING P.E. PARITY ERRORS

PROBLEM:

MARGINAL 74LS74'S FAIL AT LOCATION 5A

SOLUTION:

INSTALL AN I.C. SOCKET AT LOCATION 5A

DETAILED DESCRIPTION OF CHANGE TO AFFECTED DOCUMENTS AND/OR PARTS (USE CONTINUATION SHTS, IF REQ'D, TO SHOW REWORK, SCHEMATIC CHANGES, ASSY CHANGES, B/M CHANGES, ETC.)

1) ON ASSY 60000601

A) INSTALL SOCKET, 14 PIN (P23007008) AT LOCATION 5A

JUL 16 1981

2) ON B/M 60000601 & ASSY DWG.

A) ADD ITEM 120, I.C. SOCKET 14 PIN, LOCATION 5A, P23007008

B) ON ASSY DWG, ADD CALLOUT FOR ITEM 120 AT LOCATION 5A

	CONNECTOR A		CONNECTOR B		CONNECTOR C		CONNECTOR D		CONNECTOR E		CONNECTOR F	
	1	2	1	2	1	2	1	2	1	2	1	2
A					NPGHI-4	+5V-0		+5V-0		+5V-0		+5V-0
B					NPGHO-4							
C		GND-0		GND-0		GND-0		GND-0	A12L-1	GND-0		GND-0
D						D15L-1		BR7L-2	A17L-2	A15L-1	BBSYL-3	
E						D14L-1		BR6L-2	MSYNL-3	A16L-2		
F						D13L-1		BR5L-2	A02L-1	C1L-2		
H					D11L-1	D12L-1		BR4L-2	A01L-1	A00L-1		
J						D10L-1			SSYNL-3	COL-2	NPRL-4	
K		INDICATES SCHEMATIC PAGE NUMBER				D09L-1		BG7HI-2	A14L-1	A13L-1		
L		SCHEMATIC				D08L-1	INITL-4	BG7HO-2	A11L-1			
M		CONNECTOR				D07L-1		BG6HI-2			INITRL-4	
N		DESIGNATIONS:			DCLOL-4	D04L-1		BG6HO-2		A08L-1		
P	A T I					D05L-1		BG5HI-2	A10L-1	A07L-1		
R						D01L-1		BG5HO-2	A09L-1			
S						D00L-1		BG4HI-2				
T	GND-0		GND-0		GND-0	D03L-1	GND-0	BG4HO-2	GND-0		GND-0	SACKL-4
U						D02L-1			A06L-1	A04L-1		
V						D06L-1			A05L-1	A03L-1		

1 = Component Side

2 = Solder Side

TC-131 BUS CONNECTIONS

(3)

APPENDIX A

STANDARD TAPE DRIVE
CABLES AND ADAPTERS

E-12-81

TABLE OF CONTENTS

TITLE	DRAWING NO.
Modification Drawing, Tape Control Adapter (Config. "S")	112001
Assembly - Cable, Control	121004
Assembly - Cable, Read	121006
Assembly - Cable, Write	121014
Assembly Drawing - Adapter, Tape Read Connector	122005
Assembly Drawing - Tape Write Connector	122006
Assembly, Jumper Array, Select Switch Option	122010
Assembly, Jumper Array, Select Switch Option, Special	122011
Assembly, Jumper Array, Non-Select Switch Option	122012
Assembly Drawing - Adapter, Tape Read, Kennedy, Cipher	122018
Assembly Drawing - Adapter, Tape Write, Kennedy, Cipher	122019
Schematic - Adapter, Tape Write Connector	122021
Schematic - Adapter, Tape Read Connector	122022
Assembly, Adapter, Tape Write, Kennedy 9800	122034
Assembly, Adapter, Tape Read, Kennedy 9800	122035
Schematic - Tape Control Adapter	122036
Assembly - Adapter, Tape Control Connector	122037
Assembly - Adapter, Tape Control Connector, 90° Mounting	122038
Assembly - Adapter, Tape Control Connector, 2-inch Standoff	122039
Assembly - Adapter, Tape Read, Reverse Image, 90°	122043
Modification Drawing, Tape Control Adapter (Config. "N")	122044

FUNCTIONAL INDEX

		DRAWING NO.
I.	RIBBON CABLES AND BACKPLANE CONNECTORS	
	Assembly - Cable, Control	121004
	Assembly - Cable, Read	121006
	Assembly - Cable, Write	121014
II.	ADAPTER PADDLEBOARDS	
1.	SCHEMATICS	
	Schematic - Tape Control Adapter	122036
	Schematic - Adapter, Tape Write Connector	122021
	Schematic - Adapter, Tape Read Connector	122022
2.	ASSEMBLY DRAWINGS	
	a. CONTROL	
	Assembly - Adapter, Tape Control Connector (Standard)	122037
	Assembly - Adapter, Tape Control Connector (90° Mount)	122038
	Assembly - Adapter, Tape Control Connector (2-inch Standoff)	122039
	b. WRITE	
	Assembly Drawing - Tape Write Connector (Standard)	122006
	Assembly Drawing - Adapter, Tape Writer (Reverse Image)	122019
	Assembly - Adapter, Tape Write (90° Mount)	122034
	c. READ	
	Assembly Drawing - Adapter, Tape Read Connector	122005
	Assembly Drawing - Adapter, Tape Read (Reverse Image)	122018
	Assembly - Adapter, Tape Read (90° Mount)	122035
	Assembly - Adapter, Tape Read (Reverse Image 90° Mount)	122043
	d. DRIVE SELECT JUMPERS	
	Assembly, Jumper Array, Select Switch Option	122010
	Assembly, Jumper Array, Select Switch Option (4th Drive)	122011
	Assembly, Jumper Array, Non-Select Switch Option	122012
III.	SPECIAL FEATURE MODIFICATIONS	
	Modification Drawing, Tape Control Adapter Configuration "S"	112001
	Modification Drawing - Tape Control Adapter Configuration "N"	122044

MANUAL SUPPLEMENTS

MANUAL NO. APPENDIX A STD TAPE DRIVE PRESENT REVISION _____

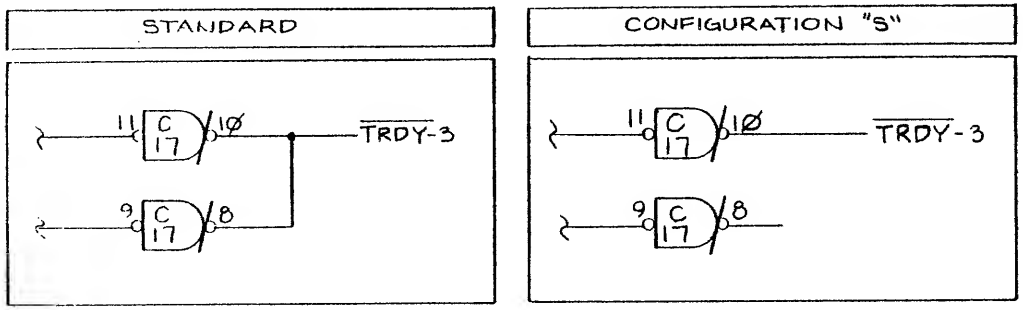
DATE	SUPPL. NO.	CHANGE DESCRIPTION	AUTH.
11-26-80		79000410 ADDED	ER
1-7-81		79000642 ADDED	
4-3-81		62000427 Added	ER
5-12-81		79000402 Added	ER

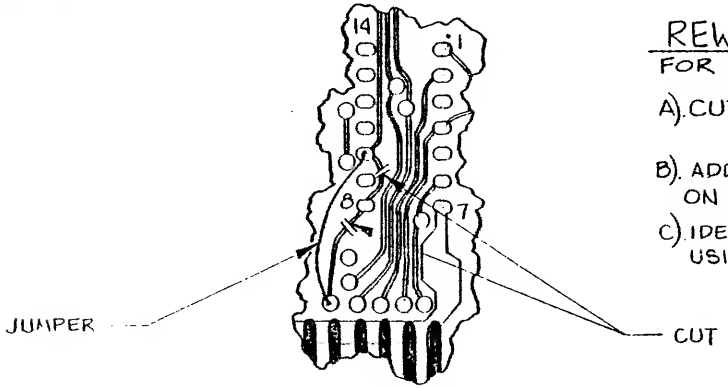
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	REDRAWN TO CORRECT DETAIL FOR E OR F ARTWORK (REF E.C.O 780)	10-2-80	

PURPOSE:

THIS MODIFICATION REQUIRED FOR CONTROL OF QUANTEX TAPE DRIVES.

SHEET (2) OF SCHEMATIC 122036 IS ALTERED AS OUTLINED BELOW.





SOLDER SIDE VIEW
I.C. LOCATION "C"

REWORK INSTRUCTIONS:

FOR ASSY. 122037, 122038, 122039

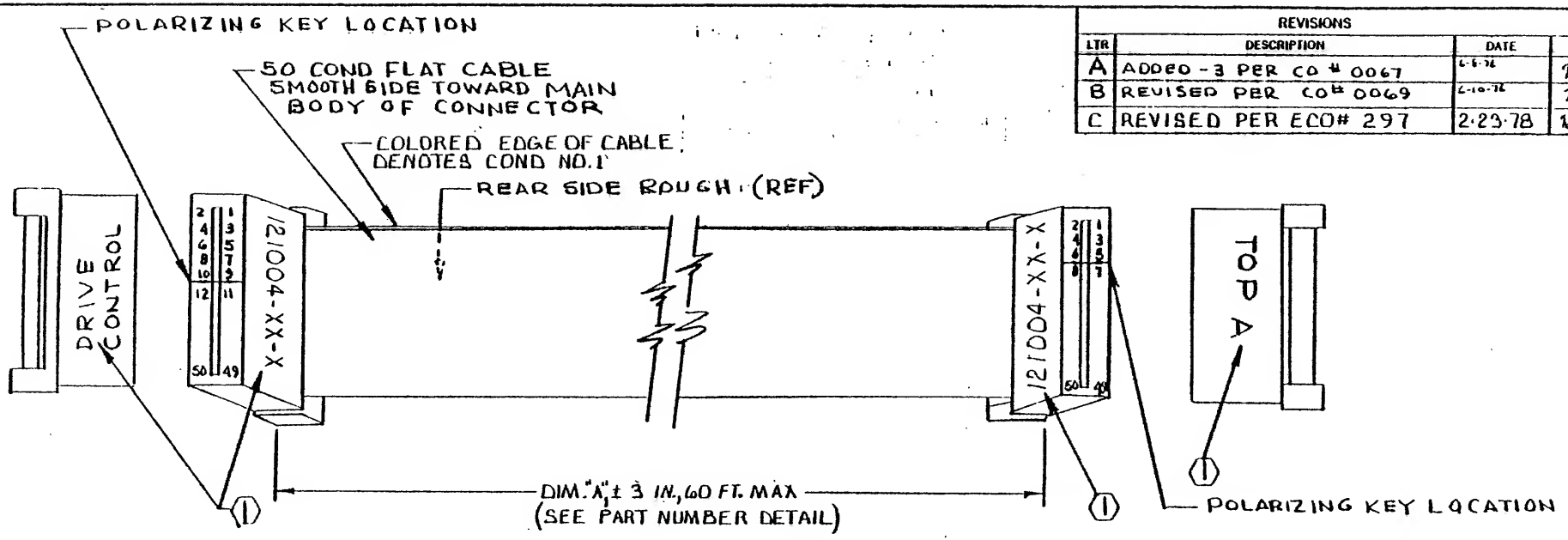
A). CUT ETCH 2 PLCS AT C-8 (SOLDER SIDE)

B). ADD JUMPER FROM C-10 TO FEED-THRU ON ETCH THAT WAS CONNECTED TO C-8

C). IDENTIFY AT ASSY NO. WITH "CONF 5" USING BLACK INK.

OCT 2 1980

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC ANGLES ± ± ±		western peripherals ™ TUSTIN, CALIFORNIA		
APPROVALS	DATE	MODIFICATION DWG- TAPE CONT. ADAPTER, CONF "S"		
DRAWN D ANDERSEN	10-1-80			
CHECKED	10-2-80	SCALE ~	SIZE B	DRAWING NO. 112001
		DO NOT SCALE DRAWING		SHEET 1 OF 1



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	ADDED -3 PER CO # 0067	6-6-76	N.D.
B	REVISED PER CO# 0069	6-10-76	N.D.
C	REVISED PER ECO# 297	2-23-78	N.D. 4-7-78

PART NUMBER DETAIL

121004-XX-X

- BASIC PART NUMBER
- DASH NUMBER IN FEET (REF. DIM."A") (-07 FOR 7 FT., -10 FOR 10 FT., ETC.)
- LATEST REVISION LETTER

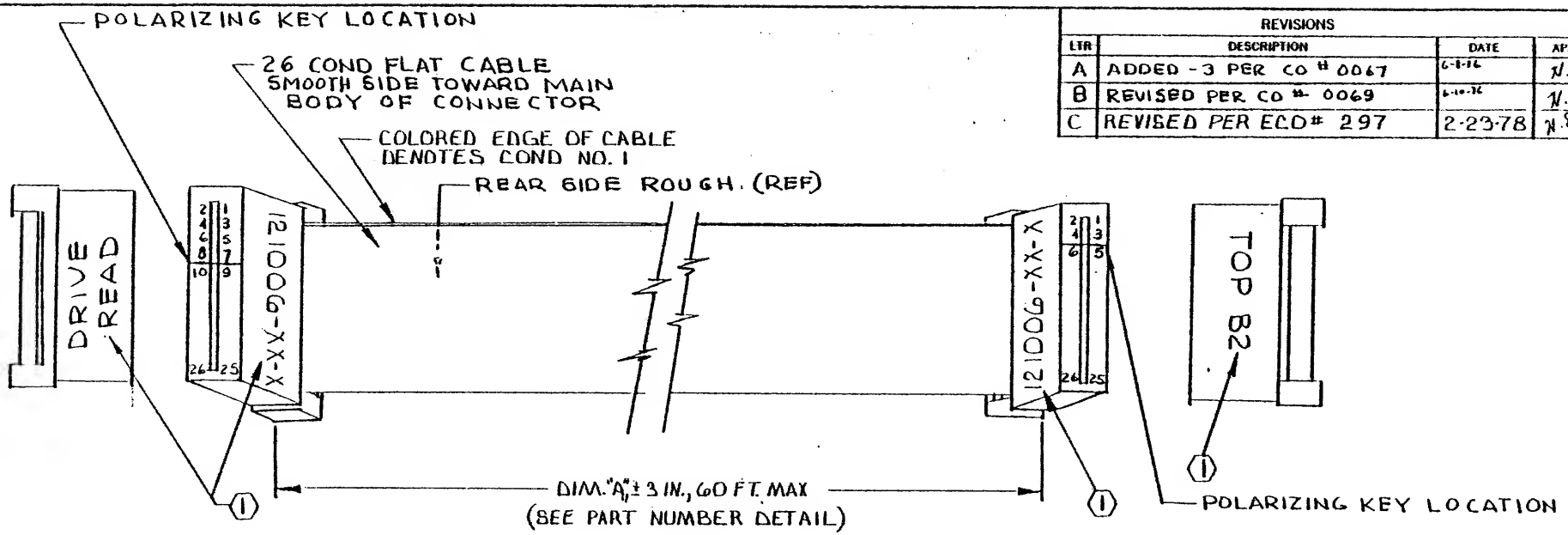
NOTES.

(1) MARK CHARACTERS SHOWN USING CONTRASTING COLOR INK. SEE PART NUMBER DETAIL FOR MARKING OF VARIABLE CHARACTERS (X's).

2. ASSEMBLY:
   USE 3M PRESS NO. 3440
   USE LOCATOR PLATE NO. 3443-11
   USE SETTING NO 9 OF GUAGE 3436-1
   CUT CABLE USING SCOTCHFLEX CABLE SHEAR OR EQUIV.
   SEAT CABLE INTO COVER USING SCOTCHFLEX TOOL NO. 3453, CHECK FOR ALIGNMENT
   PLACE BODY ON LOCATOR PLATE
   POSITION COVER AND CABLE OVER CONN BODY
   LOWER HANDLE TO COMPLETE ASSY
   REMOVE BY LIFTING ON CONNECTOR

FOR PARTS SEE PARTS LIST 121004

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC. ± ANGLES ±		western peripherals ANAHEIM, CALIFORNIA		
APPROVALS	DATE	ASSEMBLY- CABLE, CONTROL		
DRAWN Corum	6-1-76			
CHECKED N.D.	6-1-76	SCALE NONE	SIZE B	DRAWING NO. 121004
		DO NOT SCALE DRAWING		SHEET



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	ADDED -3 PER CO # 0067	6-8-76	V.D.
B	REVISED PER CO # 0069	6-10-76	V.D.
C	REVISED PER ECO # 297	2-23-78	V.D. 3-9-78

PART NUMBER DETAIL

121006-XX-X

- BASIC PART NUMBER
- DASH NUMBER IN FEET (REF. DIM."A") (-07 FOR 7 FT., -10 FOR 10 FT., ETC.)
- LATEST REVISION LETTER

NOTES:

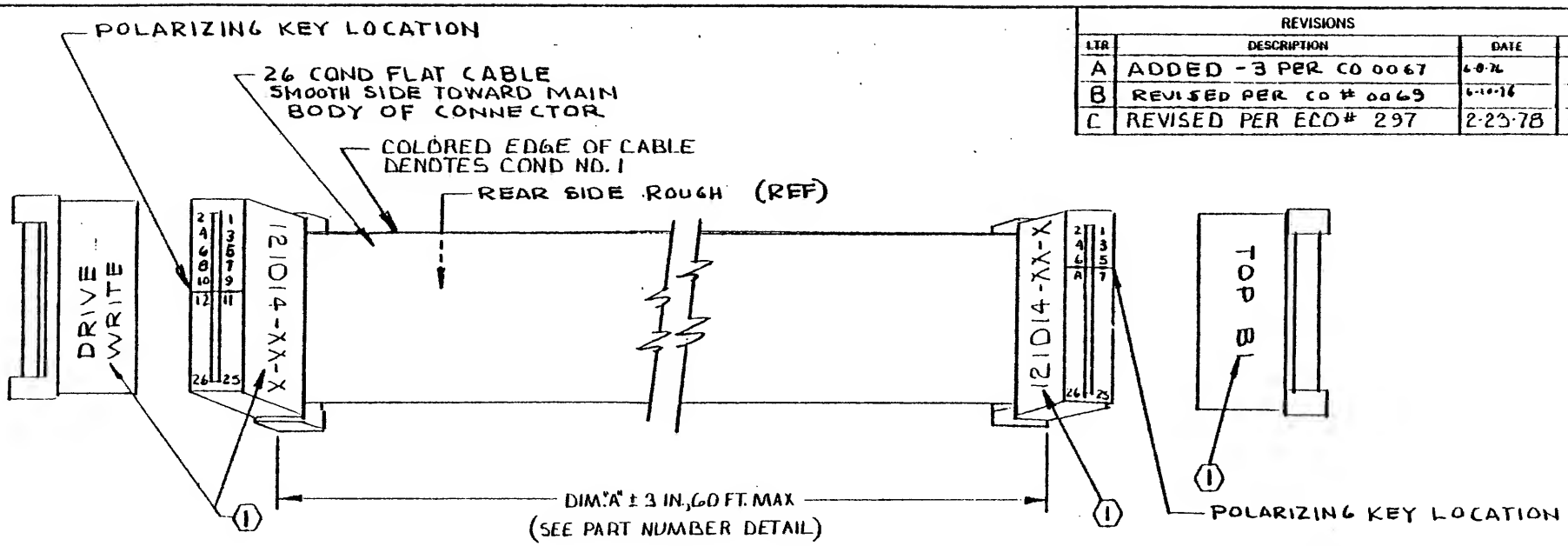
(1) MARK CHARACTERS SHOWN USING CONTRASTING COLOR INK. SEE PART NUMBER DETAIL FOR MARKING OF VARIABLE CHARACTERS (X's).

2. ASSEMBLY:
   - USE 3M PRESS NO 3440
   - USE LOCATOR PLATE NO. 3443-11
   - USE SETTING NO. 9 OF GUAGE NO. 3436-1

CUT CABLE USING SCOTCHFLEX CABLE SHEAR OR EQUIV.
SEAT CABLE INTO COVER USING SCOTCHFLEX TOOL NO 3453, CHECK FOR ALIGNMENT
PLACE BODY ON LOCATOR PLATE
POSITION COVER AND CABLE OVER CONN BODY
LOWER HANDLE TO COMPLETE ASSY
REMOVE BY LIFTING ON CONNECTOR

FOR PARTS SEE PARTS LIST 121006

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC. ± ANGLES ±		western peripherals ANAHEIM, CALIFORNIA		
APPROVALS	DATE	ASSEMBLY CABLE, READ		
DRAWN C.O'RUM	6-1-76			
CHECKED V.D.	6-1-76	SCALE NONE	SIZE B	DRAWING NO. 121006
		DO NOT SCALE DRAWING		SHEET



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	ADDED -3 PER CO 0067	6-8-76	N.D.
B	REVISED PER CO # 0069	6-10-76	N.D.
C	REVISED PER ECO# 297	2-23-78	N.D. 3-1-78

PART NUMBER DETAIL

121014 - XX - X

- BASIC PART NUMBER
- DASH NUMBER IN FEET (REF. DIM."A") (-07 FOR 7 FT., -10 FOR 10 FT., ETC.)
- LATEST REVISION LETTER

NOTES:

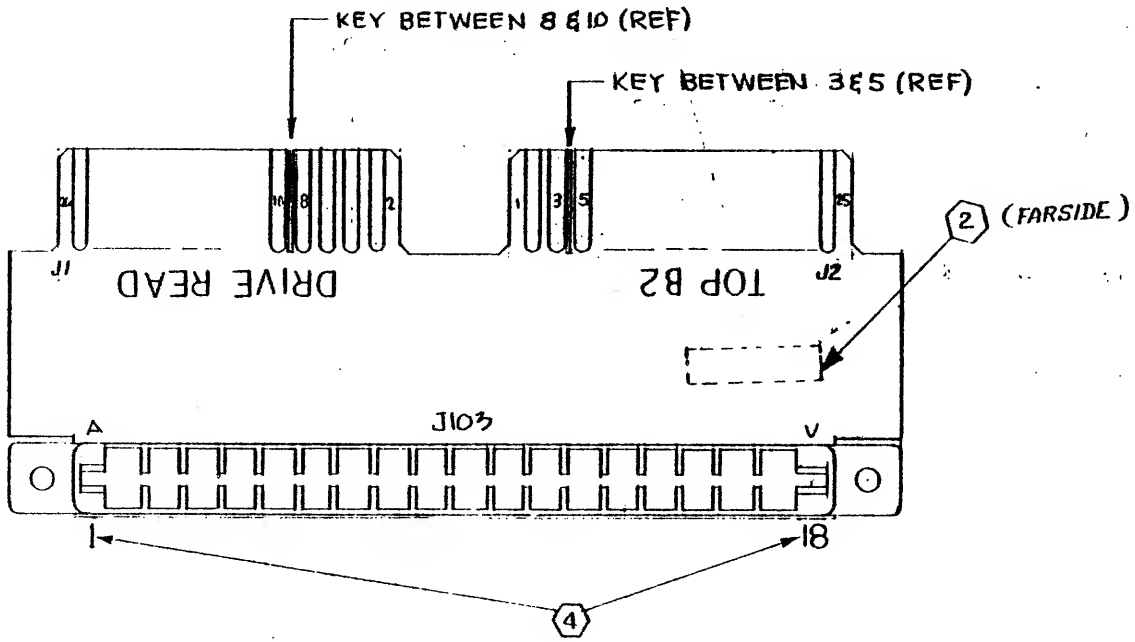
1. MARK CHARACTERS SHOWN USING CONTRASTING COLOR INK. SEE PART NUMBER DETAIL FOR MARKING OF VARIABLE CHARACTERS (X's).
2. ASSEMBLY:
   - USE 3M PRESS NO. 3440.
   - USE LOCATOR PLATE NO 3443-11
   - USE SETTING NO 9 OF GUAGE 3436-1

   CUT CABLE USING SCOTCHFLEX CABLE SHEAR OR EQUIV.
   SEAT CABLE INTO COVER USING SCOTCHFLEX TOOL NO 3453, CHECK FOR ALIGNMENT
   PLACE BODY ON LOCATOR PLATE
   POSITION COVER AND CABLE OVER CONN BODY
   LOWER HANDLE TO COMPLETE ASSY
   REMOVE BY LIFTING ON CONNECTOR

FOR PARTS SEE PARTS LIST 121014

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals ANAHEIM, CALIFORNIA		
APPROVALS	DATE	ASSEMBLY- CABLE, WRITE		
DRAWN CORUM	6-1-76			
CHECKED N.D.	6-1-76	SCALE NONE	SIZE B	DRAWING NO. 121014
		DO NOT SCALE DRAWING		SHEET

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	REV PER CO NO. 0105	9-8-76	
B	E.C.O NO.-0190	6-6-77	6-11-77
C	REVISED NOTE 2 PER ECO. #415	2/2/79	
D	ADDED NOTE (4) PER ECO# 504	6-20-79	

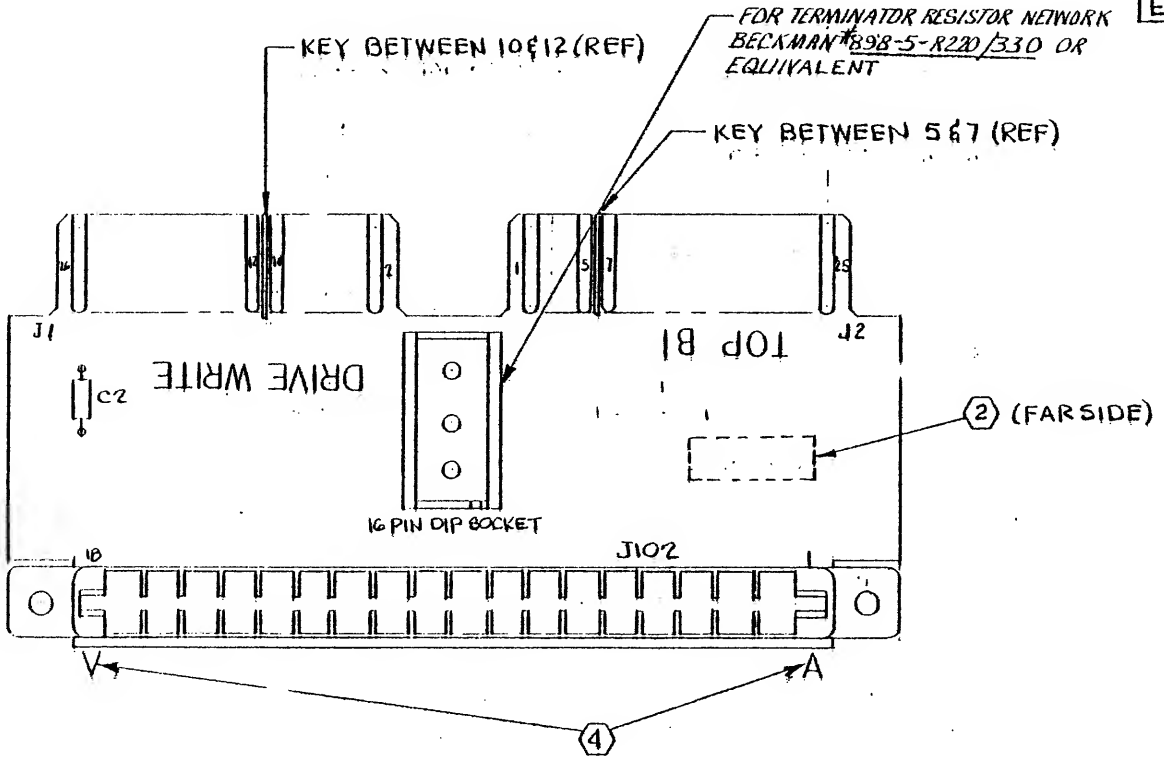


NOTE.

1. REF SCHEMATIC DWG NO. 122022
2. RUBBER STAMP ASSY NO. WITH LATEST REV. LTR APPROX WHERE SHOWN USING BLK INK.
3. FOR MATL SEE P/L 122005
4. MARK CHARACTERS SHOWN (1 & 18) ON SIDE OF CONNECTOR USING CONTRASTING INK.

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals ANAHEIM, CALIFORNIA		
APPROVALS	DATE	ASSEMBLY DWG. ADAPTER, TAPE READ CONNECTOR		
DRAWN HRB	2-13-76			
CHECKED	2-25-76	SCALE 2:1	SIZE B	DRAWING NO. 122005
		DO NOT SCALE DRAWING		SHEET 1 OF 1

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	E.C.O. NO.-0190	6-6-77	6-11-77
B/C	ADVANCED REV LTR TO AGREE WITH P/L	2/1/79	
D	REVISED NOTE 2 PER ECO# 416	2/1/79	
E	ADDED NOTE (4) PER ECO# 504	6-20-79	



NOTE:

1. REF SCHEMATIC DWG. NO. 122021.
(2) RUBBER STAMP ASSY NO. WITH LATEST REV LTR APPROX. WHERE SHOWN USING BLK INK.
3. FOR MATL SEE P/L 122006
(4) MARK CHARACTERS SHOWN (A&V) ON SIDE OF CONNECTOR USING CONTRASTING INK.

TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

APPROVALS	DATE
DRAWN HRB	2-12-76
CHECKED	2-25-76

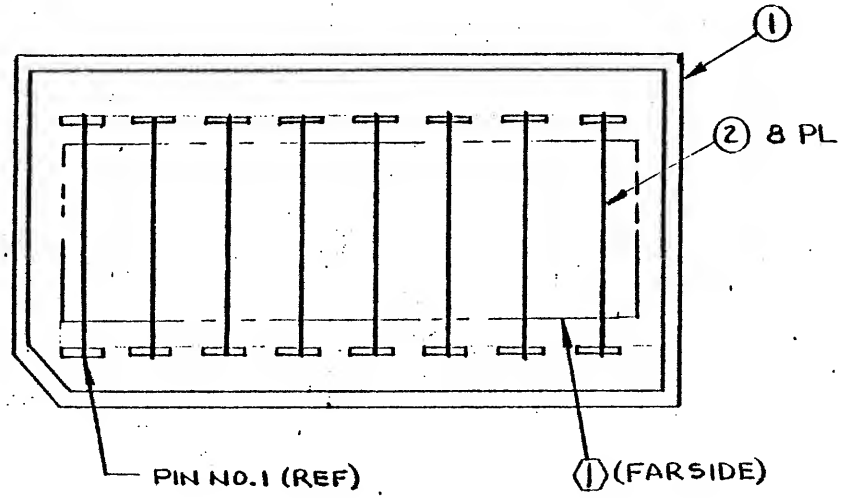
western peripherals ANAHEIM, CALIFORNIA

ASSEMBLY DWG.
ADAPTER, TAPE WRITE CONNECTOR

SCALE	SIZE	DRAWING NO.
2:1	B	122006

DO NOT SCALE DRAWING | SHEET 1 OF 1

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



NOTE: UNLESS OTHERWISE SPECIFIED

(1) AFFIX ADHESIVE LABEL WITH PART NO. & LATEST REV LTR WHERE SHOWN

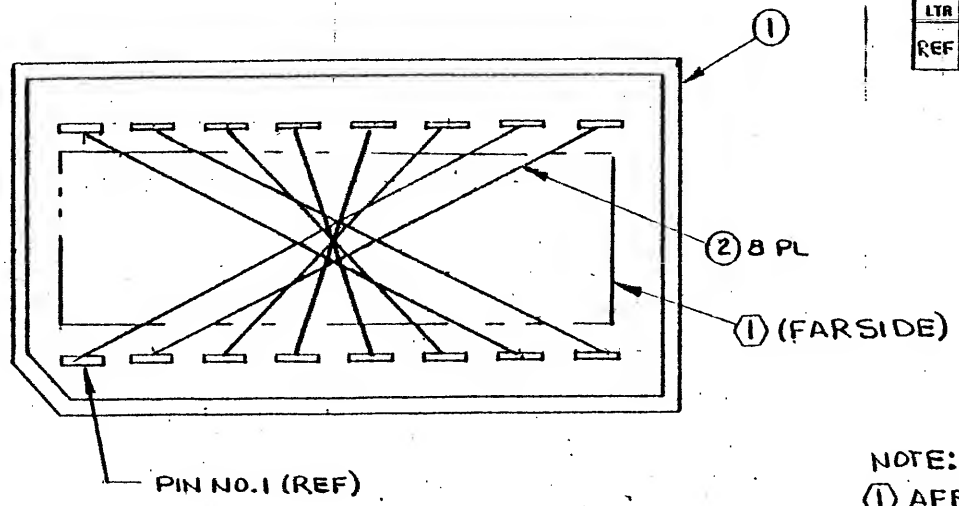
WIRE LIST		
WIRE NO.	FROM PIN NO.	TO PIN NO
1	1	16
2	2	15
3	3	14
4	4	13
5	5	12
6	6	11
7	7	10
8	8	9

BILL OF MATERIALS

ITEM	NO. REQD	PART NO.	DESCRIPTION	REMARKS
1	1	CA-16P-12	DIP PLUG, 16-PIN	CIRCUIT ASSY. OR EQUIV
2	A/R		WIRE, INSULATED, #30 AWG SOLID	WIRE WRAP WIRE

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals ANAHEIM, CALIFORNIA	
APPROVALS	DATE	ASSY, JUMPER ARRAY, SELECT SWITCH OPTION	
DRAWN CORUM	11-18-76		
CHECKED J.O.	11-18-76	SCALE NONE	SIZE B / DRAWING NO. 122010
		DO NOT SCALE DRAWING	SHEET 1 OF 1

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
REF	REC. CHG: ADD "FARSIDE" TO (1) (ALL PARTS MADE CONFORM)		



NOTE: UNLESS OTHERWISE SPECIFIED

(1) AFFIX ADHESIVE LABEL WITH PART NO. & LATEST REV LTR WHERE SHOWN

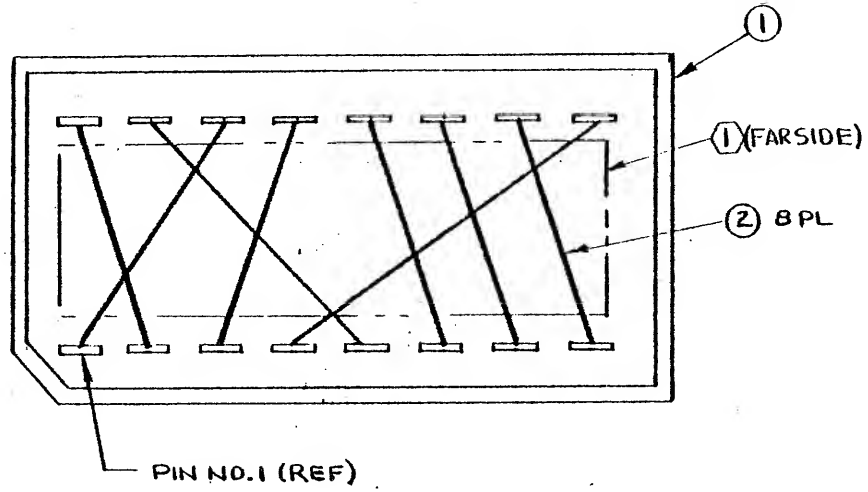
WIRE LIST		
WIRE NO.	FROM PIN NO.	TO PIN NO
1	1	10
2	2	9
3	3	11
4	4	12
5	5	13
6	6	14
7	7	16
8	8	15

BILL OF MATERIALS

ITEM	NO. REQD	PART NO.	DESCRIPTION	REMARKS
1	1	CA-16P-12	DIP PLUG, 16-PIN	CIRCUIT ASSY OR EQUIV
2	A/R		WIRE, INSULATED, #30 AWG SOLID	WIRE WRAP WIRE

TOLERANCES UNLESS OTHERWISE SPECIFIED			western peripherals ANAHEIM, CALIFORNIA	
FRACTIONS ±	DEC. ±	ANGLES ±	ASSY, JUMPER ARRAY, SELECT SWITCH OPTION, SPECIAL (4TH TRANSPORT)	
APPROVALS	DATE			
DRAWN CORUM	11-18-76		SCALE NONE	SIZE B
CHECKED V.D.	11-18-76		DRAWING NO. 122011	
			DO NOT SCALE DRAWING	SHEET 1 OF 1

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



NOTE: UNLESS OTHERWISE SPECIFIED
(1) AFFIX ADHESIVE LABEL WITH PART NO. & LATEST REV LTR WHERE SHOWN

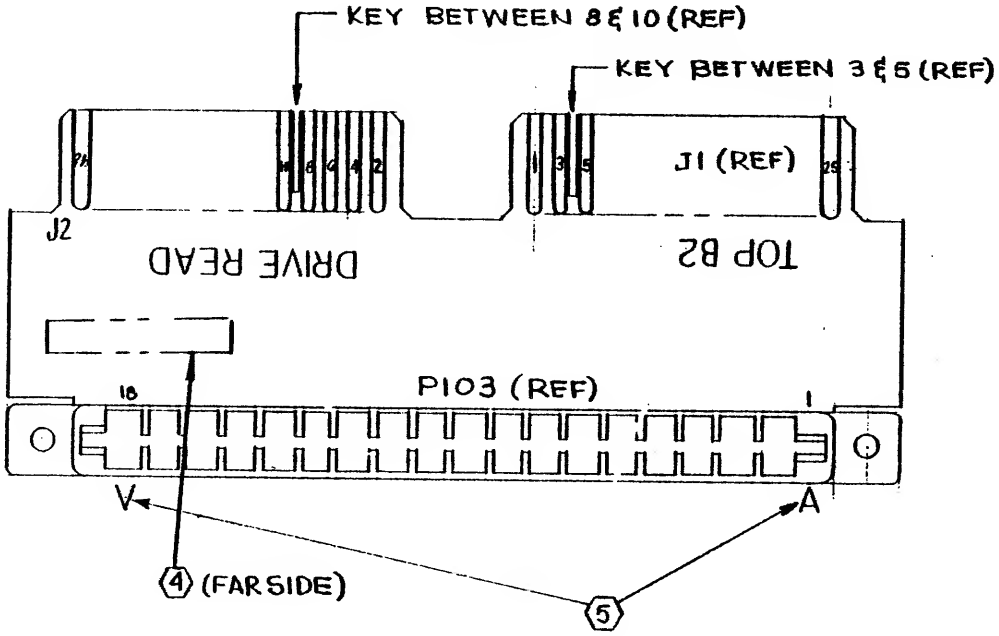
WIRE LIST		
WIRE NO.	FROM PIN NO.	TO PIN NO
1	1	14
2	2	16
3	3	13
4	4	9
5	5	15
6	6	12
7	7	11
8	8	10

BILL OF MATERIALS

ITEM	NO. REQD	PART NO.	DESCRIPTION	REMARKS
1	1	CA-16P-12	DIP PLUG, 16-PIN	CIRCUIT ASSY OR EQUIV
2	A/R		WIRE, INSULATED, #30 AWG SOLID	WIRE WRAP WIRE

TOLERANCES UNLESS OTHERWISE SPECIFIED			western peripherals ANAHEIM, CALIFORNIA		
FRACTIONS ±	DEC. ±	ANGLES ±	ASSY, JUMPER ARRAY, NON-SELECT SWITCH OPTION		
APPROVALS	DATE				
DRAWN CORUM	11-18-76				
CHECKED T.D.	11-18-76		SCALE NONE	SIZE B	DRAWING NO. 122012
			DO NOT SCALE DRAWING		SHEET 1 OF 1

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	INCORP. CO # 0145 mc	1-21-77	N.D. 1-24-77
B	E.C.O. NO. - 0190	6-6-77	N.D. 6-11-77
C	DELETED NOTE 2 PER E.C.O. #917	6/26/79	7/11/79
D	ADDED NOTE (5) PER ECO #504	6-20-79 BS	6-20-79



NOTE: UNLESS OTHERWISE SPECIFIED

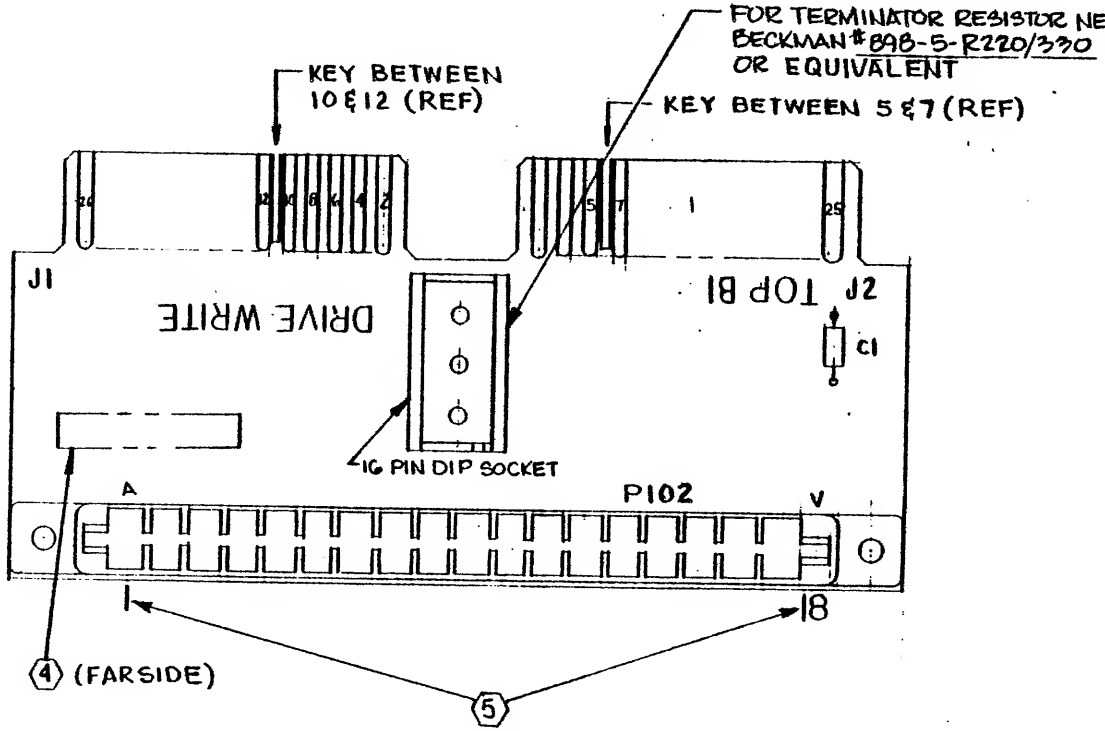
1. REF SCHEMATIC DWG NO. 122022
2.
3. FOR MATERIAL SEE P/L 122018

(4) RUBBER STAMP ASSY NO. WITH LATEST REV LTR APPROX WHERE SHOWN *USING BLK INK.*

(5) MARK CHARACTERS SHOWN (A&V) ON SIDE OF CONNECTOR USING CONTRASTING INK.

TOLERANCES UNLESS OTHERWISE SPECIFIED			western peripherals ANAHEIM, CALIFORNIA		
FRACTIONS ±	DEC. ±	ANGLES ±	ASSEMBLY DWG. ADAPTER, TAPE READ KENNEDY-CIPHER		
APPROVALS	DATE				
DRAWN HRB	2-13-76		SCALE 2:1	SIZE B	DRAWING NO. 122018
CHECKED	2-25-76		DO NOT SCALE DRAWING		SHEET 1 OF 1

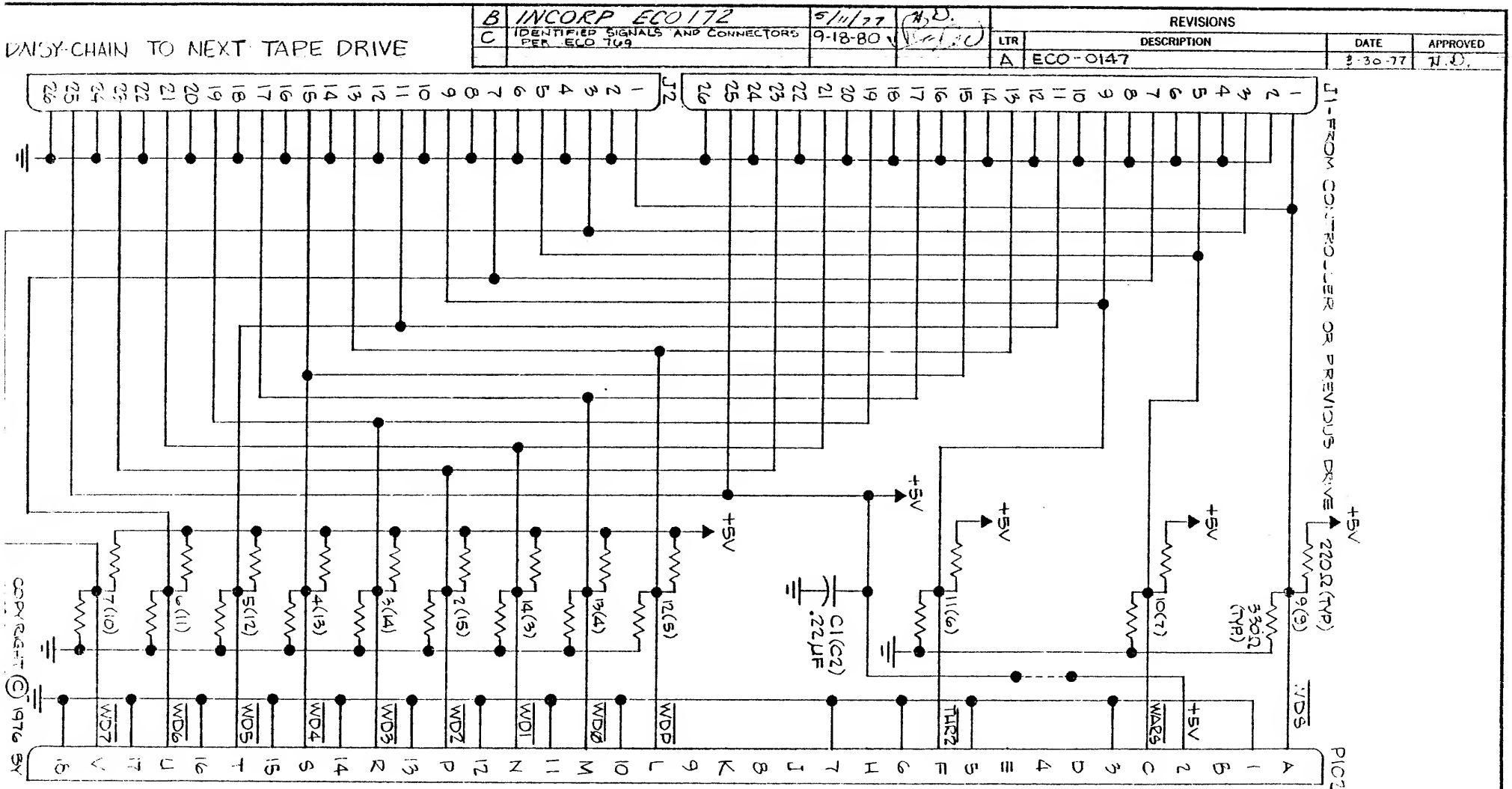
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	INCORPORATE CO # 0146	1-21-77	N.D. 1-24-77
B	INCORP. ECO 172	5/11/77	N.D. 5-11-77
C	INCORP. E.C.O. NO.-0190	6-6-77	N.D. 6-11-77
D	DELETED NOTE 2 & CALLOUT PER ECO 418	6-20-79	
E	ADDED NOTE (5) PER ECO # 504	6-20-79	



NOTE: UNLESS OTHERWISE SPECIFIED

1. REF SCHEMATIC DWG NO. 122021
2.
3. FOR MATERIAL SEE P/L 122019
(4) RUBBER STAMP ASSY NO. WITH LATEST REV LTR APPROX WHERE SHOWN
(5) MARK CHARACTERS (1 & 18) ON SIDE OF CONNECTOR USING CONTRASTING INK.

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC. ± ANGLES ±	western peripherals ANAHEIM, CALIFORNIA	
APPROVALS / DATE	ASSEMBLY DWG. ADAPTER, TAPE WRITE KENNEDY-CIPHER	
DRAWN HRB 2-12-76		
CHECKED 2-25-76	SCALE 2:1	SIZE B — DRAWING NO. 122019
	DO NOT SCALE DRAWING	SHEET 1 OF 1



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	ECO-0147	3-30-77	N.D.
B	INCORP ECO 172	5/11/77	N.D.
C	IDENTIFIED SIGNALS AND CONNECTORS PER ECO 769	9-18-80	

NOTES:
1. NEXT ASSY. NO. 122009, 122019, AND 122029.
2. PIN NUMBERS AND REFERENCE DESIGNATIONS SHOWN IN PARENTHESIS APPLY TO ASSY 122009, 122034.

TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

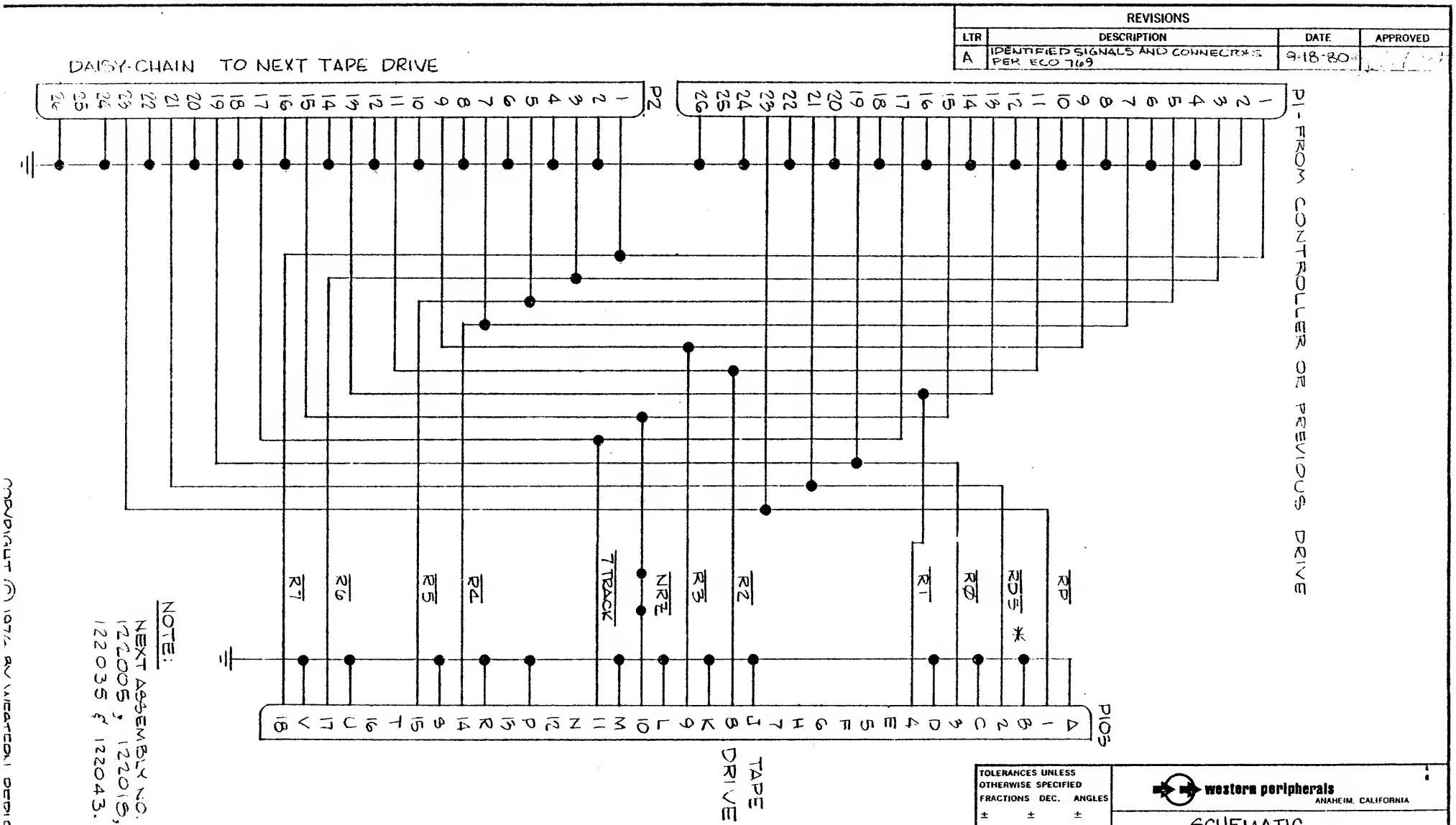
APPROVALS	DATE
DRAWN HRB	1-12-76
CHECKED	1-26-76

western peripherals
ANAHEIM, CALIFORNIA

SCHEMATIC
ADPTR., TAPE WRITE
CONNECTOR

SCALE	SIZE	DRAWING NO.
NONE	B	122021

DO NOT SCALE DRAWING — SHEET 1 OF 1



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	IDENTIFIED SIGNALS AND CONNECTORS PER ECO 7609	9-18-80	

TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

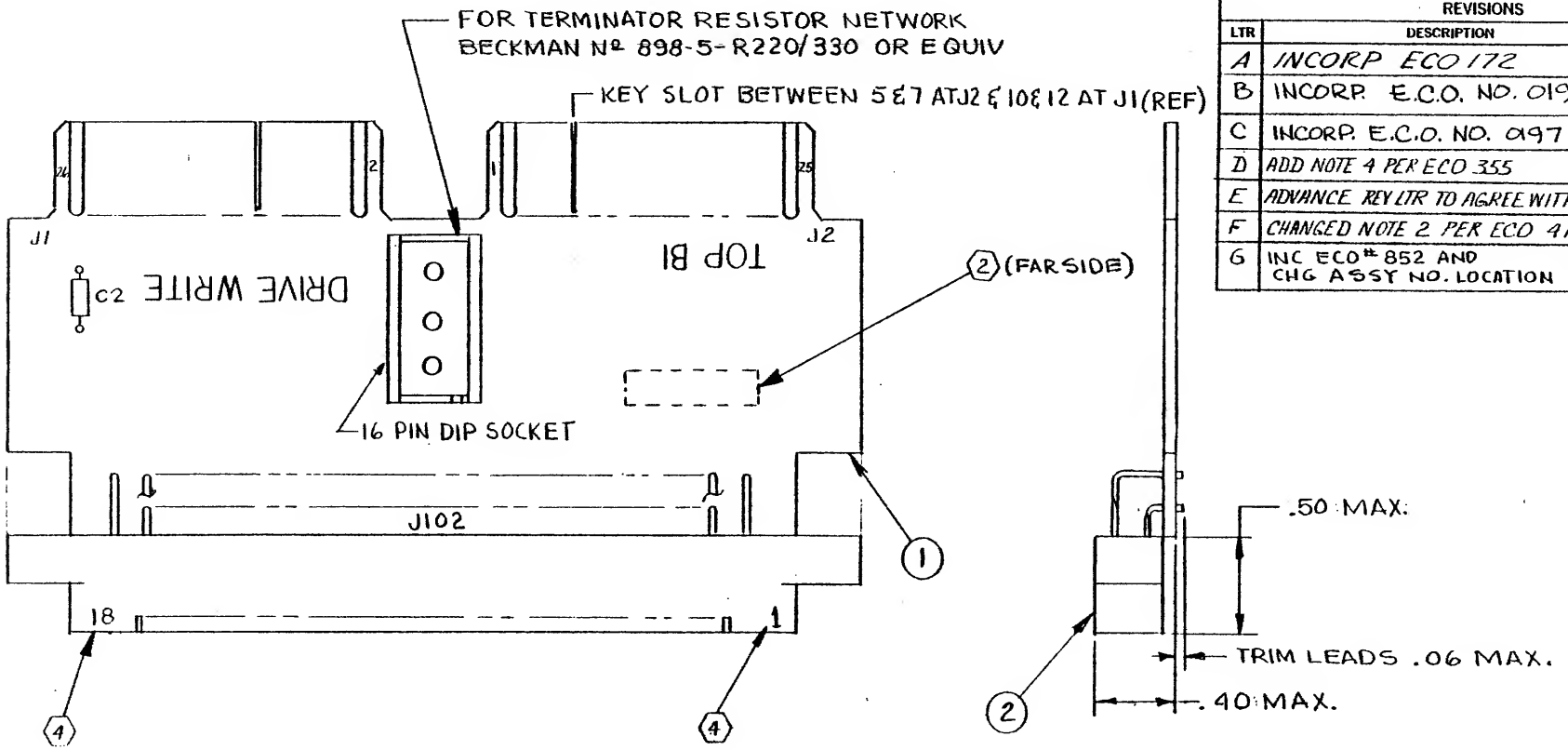
APPROVALS	DATE
DRAWN HRB	1-13-76
CHECKED	1-26-76

western peripherals
ANAHEIM, CALIFORNIA

SCHEMATIC
ADPTR., TAPE READ
CONNECTOR

SCALE	SIZE	DRAWING NO.
NONE	B	122022

DO NOT SCALE DRAWING | SHEET 1 OF 1



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	INCORP ECO 172	5/11/77	
B	INCORP. E.C.O. NO. 0190	6-6-77	
C	INCORP. E.C.O. NO. 097	8-8-77	
D	ADD NOTE 4 PER ECO 355		
E	ADVANCE REV LTR TO AGREE WITH P/L		
F	CHANGED NOTE 2 PER ECO 416		
G	INC ECO# 852 AND CHG ASSY NO. LOCATION	3-10-81 3/24/81	

(4) RUBBER STAMP CHARACTERS SHOWN USING WHITE INK.

3. FOR MATERIAL LIST SEE P/L 122034.

(2) RUBBER STAMP ASSY NO. & LATEST REV LTR APPROX WHERE SHOWN USING BLK INK.

1. REF. SCHEMATIC DWG NO. 122021.

NOTE: UNLESS OTHERWISE SPECIFIED.

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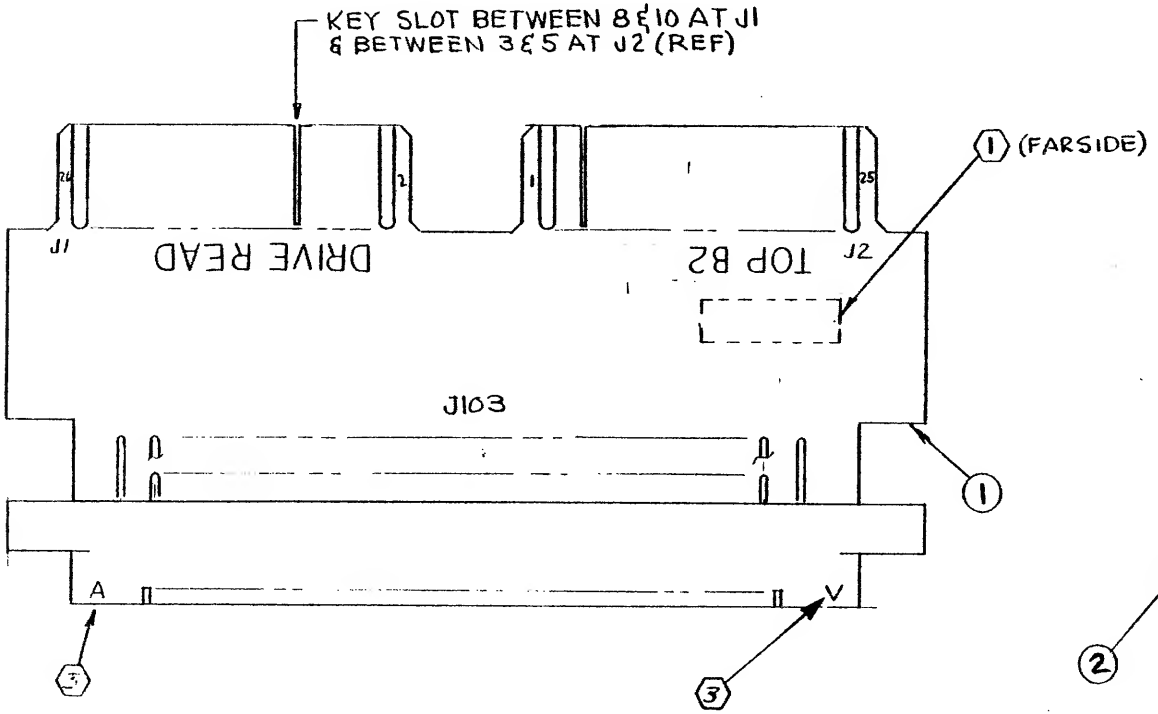
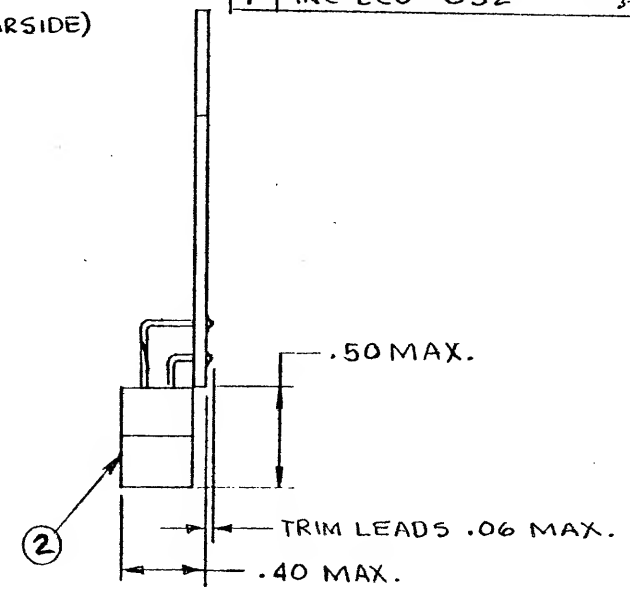
TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals ANAHEIM, CALIFORNIA	
APPROVALS	DATE	ASSEMBLY- ADAPTER TAPE WRITE KENNEDY 9800	
DRAWN Corum	6-11-76		
CHECKED		SCALE 2X	SIZE B
		DRAWING NO. 122034	
		DO NOT SCALE DRAWING	SHEET 1 OF 1





REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	E.C.O. NO.-0190	6-6-77	
B	E.C.O. NO.-0197	8-8-77	
C	ADDED NOTE 3 PER ECO #355		
D	ADVANCED REV LTR TO AGREE WITH P/L		
E	CHANGED NOTE 1 PER ECO #415		
F	INC ECO # 852 MLE 3-13-81		

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(3) RUBBER STAMP CHARACTERS SHOWN USING WHITE INK.
2. REF SCHEMATIC DWG NO. 122022.
(1) RUBBER STAMP ASSY NO. & LATEST REV LTR APPROX WHERE SHOWN USING BLK INK.
NOTE : UNLESS OTHERWISE SPECIFIED.

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals ANAHEIM, CALIFORNIA	
APPROVALS	DATE	ASSEMBLY-ADAPTER TAPE READ KENNEDY 9800	
DRAWN CORUM	6-11-76		
CHECKED MLE		SCALE 2 X	SIZE B
		DRAWING NO. 122035	
		DO NOT SCALE DRAWING	SHEET 1 OF 1

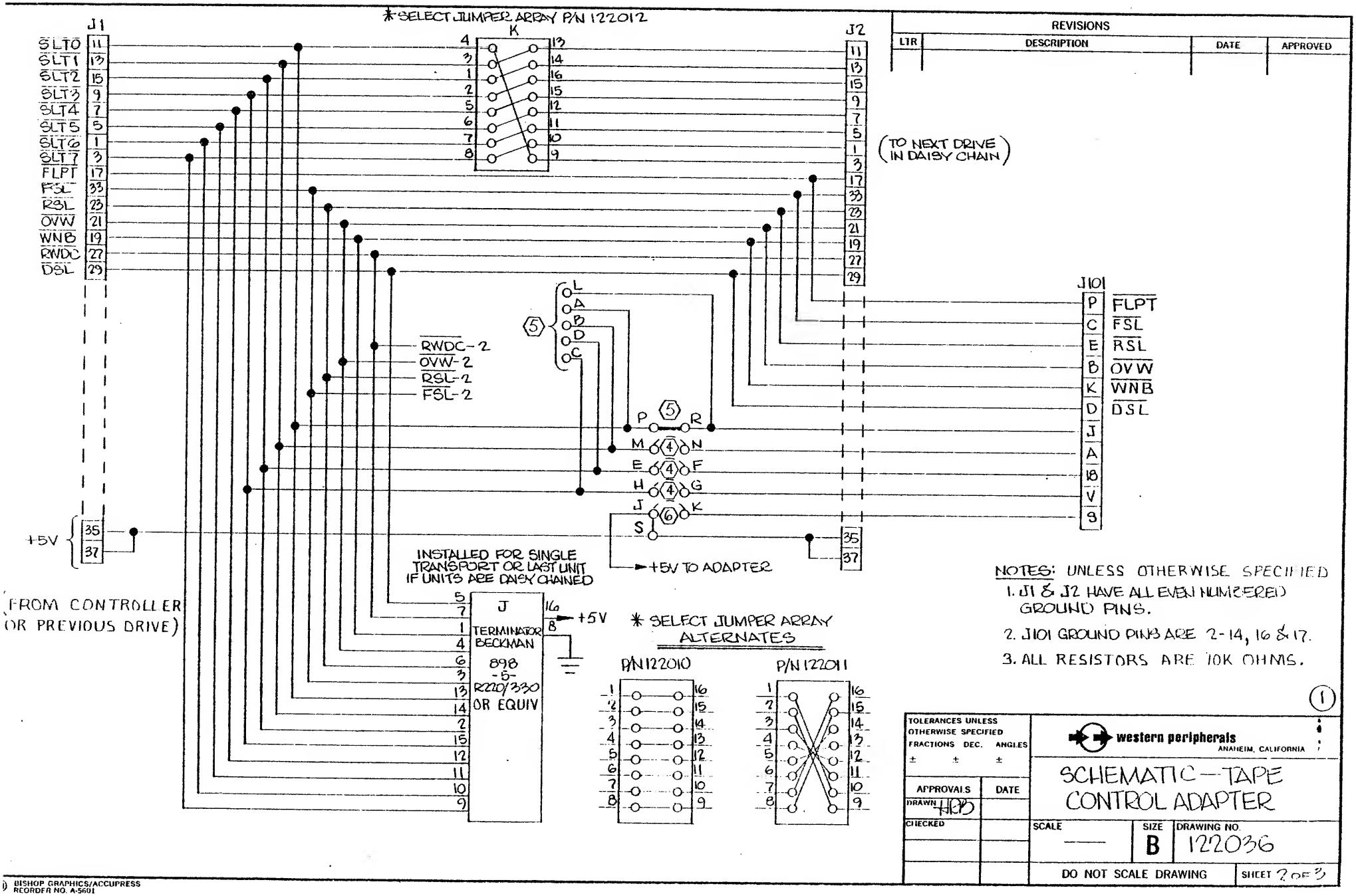
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	CORRECTED SWITCH SETTING CHART FOR SA4 PER ECO 178.	5-4-77	
B	REDRAWN PER ECO 236.	5-16-78	N.D. 5-16-78
C	CHANGED I.C. LOC 'H' PER ECO 806	12-9-80	

SWITCH A		SWITCH SETTINGS	SYSTEM CONSIDERATIONS
1	ON	FOR DRIVES THAT REQUIRE REWIND COMMAND REMOVAL PRIOR TO BOT	1. REMOVE ALL INTERFACE TERMINATORS FROM TRANSPORT(S)
	OFF	FOR DRIVES THAT DO NOT REQUIRE REWIND COMMAND REMOVAL PRIOR TO BOT	2. INSTALL CONTROL TERMINATOR ONLY IN LAST DAISY CHAIN POSITION
2	ON	FOR DRIVES THAT STORE EOT STATUS NOTE: A5 SHOULD BE OFF	3. CORRECTLY IDENTIFY CONFIGURATION AND SET SWITCHES ACCORDINGLY
	OFF	FOR DRIVES THAT DO NOT STORE EOT STATUS NOTE: A5 SHOULD BE ON	
3	ON	FOR 7 TRACK DRIVES	
	OFF	FOR 9 TRACK DRIVES	
4	ON	FOR 7 TRACK 556/800 BPI DENSITY SELECTIONS OR 9 TRACK SECONDARY SPEED (SELECTION B)	
	OFF	FOR 7 TRACK 200/556 BPI DENSITY SELECTIONS OR 9 TRACK PRIMARY SPEED (SELECTION A)	
5	ON	FOR DRIVES THAT DO NOT STORE EOT STATUS NOTE: A2 SHOULD BE OFF	
	OFF	FOR DRIVES THAT STORE EOT STATUS NOTE: A2 SHOULD BE ON	
6	ON	FOR 9 TRACK NRZI ONLY DRIVE	
	OFF	FOR 7 TRACK DRIVES, 9 TRACK 1600 BPI DRIVES, OR 9 TRACK 800/1600 DUAL DENSITY	
7	ON	FOR DUAL DENSITY 9 TRACK DRIVES THAT DO NOT PRESENT NRZ STATUS ON DRIVE READ CONNECTOR	
	OFF	FOR DUAL DENSITY 9 TRACK DRIVES THAT DO PRESENT NRZ STATUS ON DRIVE READ CONNECTOR	
8	ON	FOR 7 TRACK DRIVES	
	OFF	FOR 9 TRACK DRIVES	

NOTES:

1. FOR 7 TRACK DRIVES IN DRIVE DAISY CHAINS, ONLY PRIMARY SPEED SELECTION IS AVAILABLE.
2. REF. ASSY. DWG. 122037, 122038, & 122039.
3. 122010 INSTALLED WHEN TRANSPORT HAS 4-POSITION UNIT SELECT SWITCH (SEE EXCEPTION BELOW).
   122011 INSTALLED IN 4TH TRANSPORT IF MORE THAN 4 TRANSPORTS ARE DAISY CHAINED.
   122012 INSTALLED WHEN TRANSPORT DOES NOT HAVE UNIT SELECT SWITCH.
4. FOR PERTEC COMPATIBLE UNIT SELECT OPTION: JUMPER E TO F, G TO H, AND M TO N.
5. FOR EXTERNALLY CONNECTED UNIT SELECT SWITCH: CUT ETCH BETWEEN P & R AND CONNECT EXTERNAL SWITCH TO A, B, C, D, & L.
6. TO POWER ADAPTER FROM TAPE TRANSPORT, CUT ETCH BETWEEN J & S AND JUMPER J TO K.
7. FOR CONFIGURATION "L" SEE DWG. 130047.
8. FOR CONFIGURATION "N" SEE DWG. 122044.
9. FOR CONFIGURATION "S" SEE DWG. 112001.

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals ANAHEIM, CALIFORNIA	
APPROVALS	DATE	SCHEMATIC — TAPE CONTROL ADAPTER	
DRAWN T.M.	2-15-78		
CHECKED N.D.	5-16-78	SCALE	SIZE B — DRAWING NO. 122036
		DO NOT SCALE DRAWING	SHEET 1 OF 3



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED

NOTES: UNLESS OTHERWISE SPECIFIED

1. J1 & J2 HAVE ALL EVEN NUMBERED GROUND PINS.
2. J101 GROUND PINS ARE 2-14, 16 & 17.
3. ALL RESISTORS ARE 10K OHMS.

(1)

TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC.	ANGLES
±	±	±

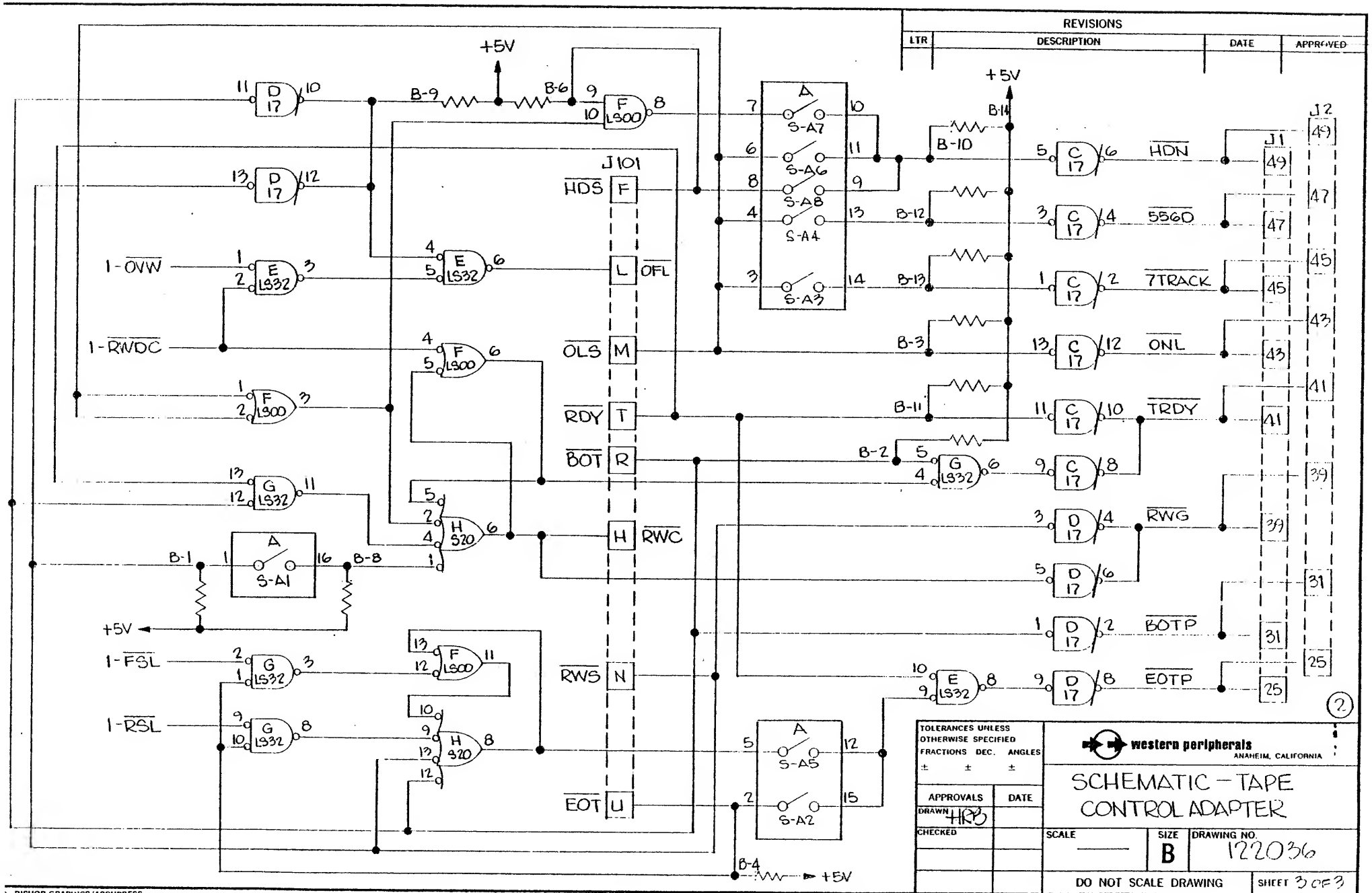
APPROVALS	DATE
DRAWN HRB	
CHECKED	

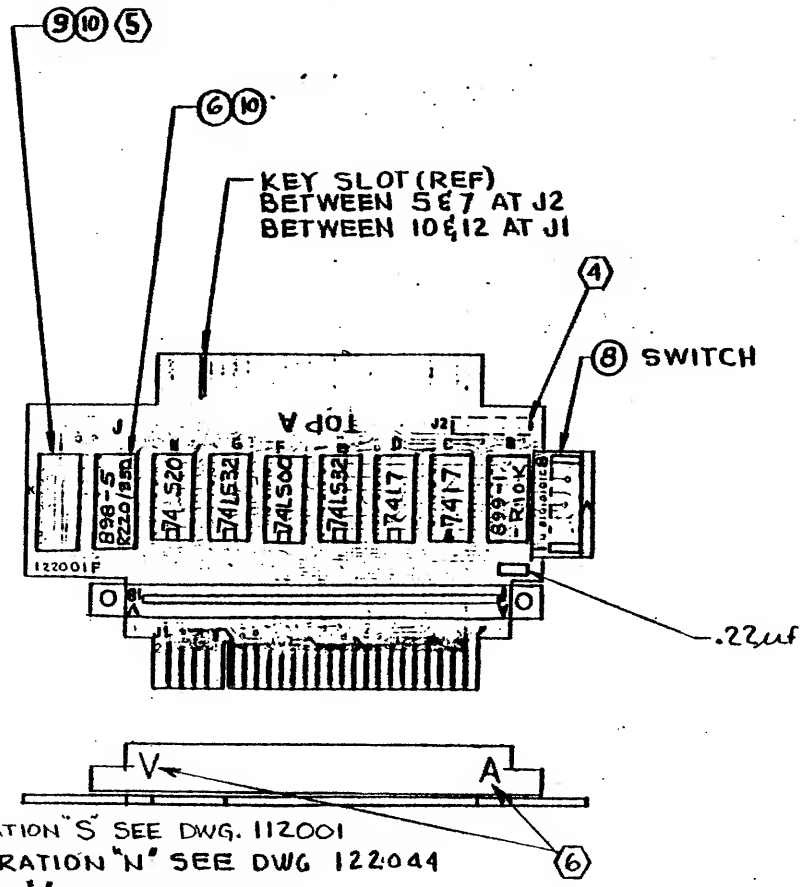
western peripherals
ANAHEIM, CALIFORNIA

SCHEMATIC — TAPE CONTROL ADAPTER

SCALE	SIZE	DRAWING NO.
——	B	122036

DO NOT SCALE DRAWING — SHEET 2 OF 3


REVISIONS
LTR
DESCRIPTION
DATE
APPROVED
+5V
J101
HDS F
OFL L
OLS M
RDY T
BOT R
RWC H
RWS N
EOT U
1-OVW
1-RWDC
1-FSL
1-RSL
S-A1
S-A2
S-A3
S-A4
S-A5
S-A6
S-A7
S-A8
HDN
556D
7TRACK
ONL
TRDY
RWG
BOTP
EOTP
J1
J2
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS DEC. ANGLES
APPROVALS
DATE
DRAWN HRB
CHECKED
western peripherals
ANAHEIM, CALIFORNIA
SCHEMATIC – TAPE CONTROL ADAPTER
SCALE
SIZE B
DRAWING NO. 122036
DO NOT SCALE DRAWING
SHEET 3 OF 3
BISHOP GRAPHICS/ACCUPRESS
REORDER NO. A 5601



9. FOR CONFIGURATION "S" SEE DWG. 112001
8. FOR CONFIGURATION "N" SEE DWG 122044
7. FOR CONFIGRATION "L" SEE DWG. 130047

(6) MARK CHARACTERS SHOWN (A&V) ON SIDE OF CONNECTOR USING CONTRASTING INK.

(5) FOR OPTIONAL JUMPERING AND/OR JUMPER ARRAYS, REF J.O.A. & SCHEMATIC

(4) RUBBER STAMP ASSY NO. WITH LATEST REV LTR AND DASH NO. (IF REQD) APPROX WHERE SHOWN (FAR SIDE)

3.

2. FOR MATERIAL SEE P/L NO. 122037

1. REF SCHEMATIC 122036

NOTE: UNLESS OTHERWISE SPECIFIED

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	E.C.O. NO.- 0143	1-18-77	
B	E.C.O. NO.- 0190	6-3-77	W.D. 8-11-77
	RECORD CHANGE: ADD CONF. "L" (REV. LTR. CHANGE NOT REQD.)	8-9-77	W.D. 8-9-77
	RECORD CHG: ADD CONF "N" (REV LTR CHG NOT REQD)	9-28-77	W.D. 9-28-77
	RECORD CHG: ADD SH NO. 2 (1 ASSY). NO CHG TO BASIC BD SEE ECO # 0254 (NO REV LTR REQD)	M.T.S. 11-16-77	W.D. 11-22-77
	ECO #299 (NO REV. LTR. CHANGE)	3-8-78 TH	W.D. 3-9-78
C	USE "F" REV. PWB, REF. ECO No. 236A	5-16-78 PAUL CHAPMAN	W.D. 5-16-78
D	DELETED NOTES 3 & 6 PER ECO 419		
E	CORRECT VALUE SHOWN FOR CAPACITOR PER. ECO No. 460	3-6-79 P. CHAPMAN	
F	ADDED NOTE (6) PER ECO # 504	6-20-79 PC	

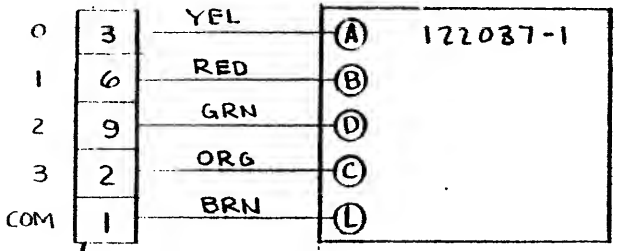
G IC "H" S/B 74S20 ECO 806

BASIC ASSY SHOWN

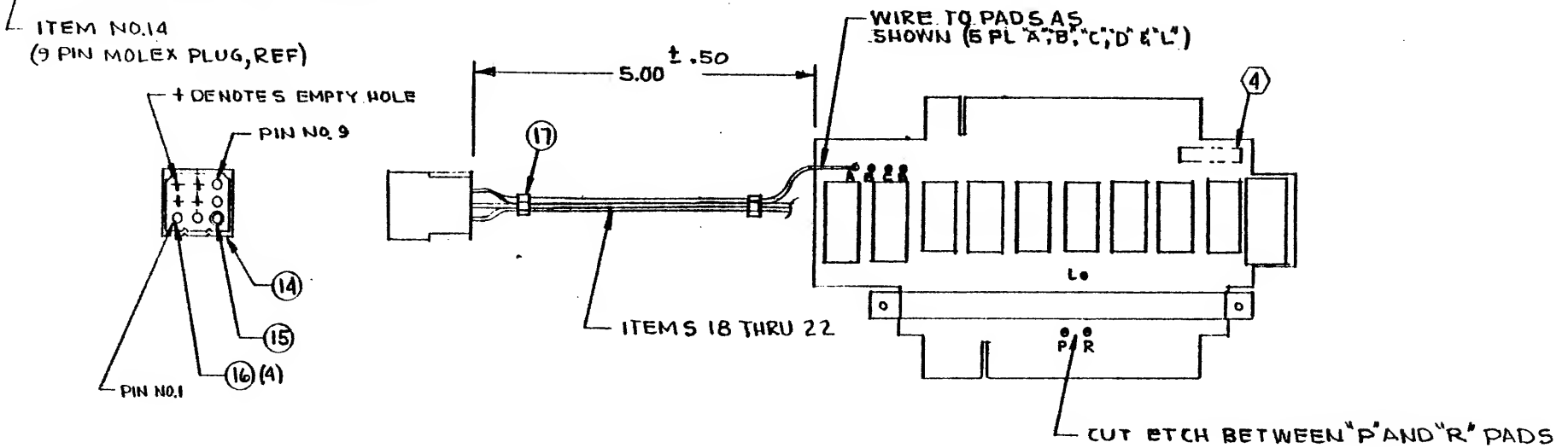
FOR -1 ASSY SEE SH NO. 2

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC. ± ANGLES ±		western peripherals ANAHEIM, CALIFORNIA		
APPROVALS	DATE	ASSEMBLY- ADAPTER TAPE CONTROL CONNECTOR		
DRAWN T. CORUM	11-8-76			
CHECKED W.D.	12-16-76	SCALE FULL	SIZE B	DRAWING NO. 122037
		DO NOT SCALE DRAWING		SHEET 1 OF 2

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



120037-1 WIRING DIAGRAM



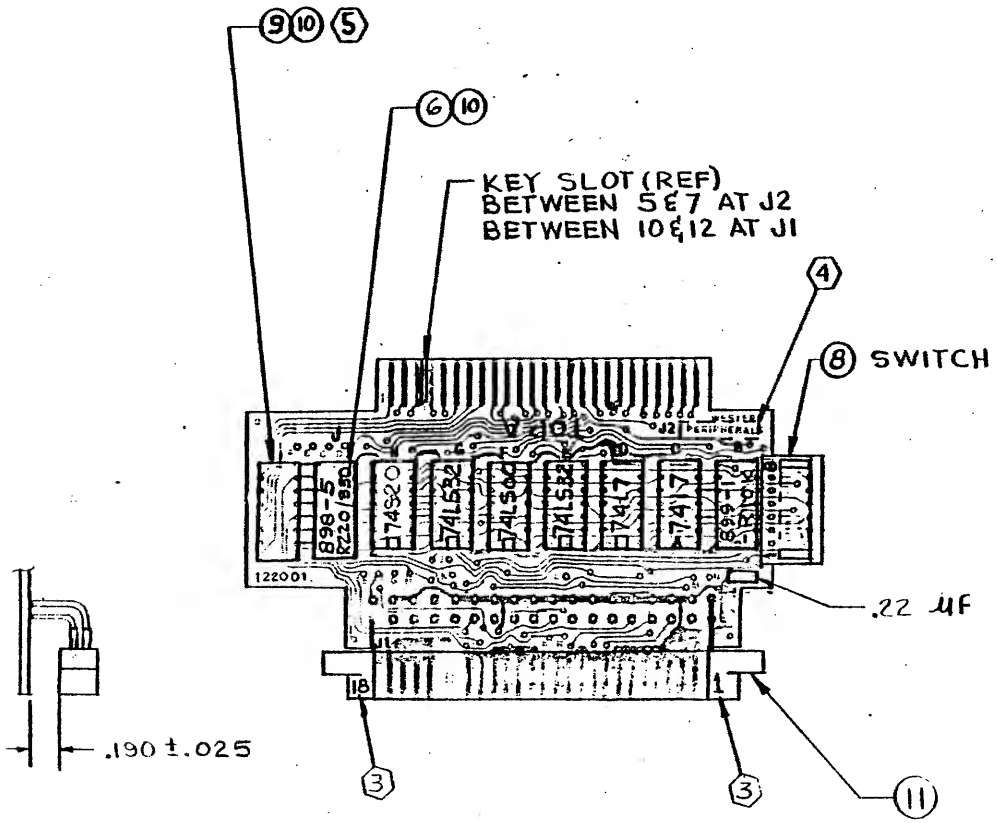
NOTE:

THE -1 ASSY IS USED ON PERTEC T9000 SERIES WITH OPTIONAL UNIT SELECT THUMBWHEEL SWITCH TERMINATED IN MOLEX CONNECTOR. COMPONENT REQUIREMENTS & MARKINGS ARE THE SAME AS FOR BASIC ASSY

-1 ASSY SHOWN

FOR BASIC ASSY SEE SH NO.1

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC. ± ANGLES ±		western peripherals ANAHEIM, CALIFORNIA	
APPROVALS	DATE	ASSEMBLY — ADAPTER TAPE CONTROL CONNECTOR	
DRAWN CORUM	11-19-77		
CHECKED		SCALE FULL	SIZE B
		DRAWING NO. 122037 1	
		DO NOT SCALE DRAWING	SHEET 2 OF 2



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	E.C.O. NO. - 0143	1-18-77	
B	E.C.O. NO. - 0190	6-3-77	N.D. 6-11-77
C	E.C.O. NO. - 0197	8-8-77	N.D. 8-9-77
	E.C.O. NO. - 299 (NO REV. LTR. CHG.)	3-8-78 TM	N.D. 3-9-78
	ADDED NOTE 7 PER E.C.O. 257 AND DELETED REQUIREMENT FOR SLEEVING WIRE AT CONNECTOR	3-21-78 TMcTAGG	N.D.
D	USE "F" REV. PWB, REF. ECO No. 236A	5-16-78 FANCCHIN	N.D. 5-16-78
E	REVISED NOTE 3 PER ECO #355	4/6/	
F	DELETED NOTE 6 PER ECO #414	3/	
G	CHANGED I.C. AT LOC H PER ECO 806	12-9-80	
H	INC ECO NO. 852		

. FOR CONFIGURATION "S" SEE DWG. 112001

. FOR CONFIGURATION "N" SEE DWG. 122044

)FOR OPTIONAL JUMPERING AND/OR JUMPER ARRAYS, REF J.O.A. & SCHEMATIC

)RUBBER STAMP ASSY NO. WITH LATEST REV LTR LOCATED APPROX WHERE SHOWN (FAR SIDE)

)RUBBER STAMP CHARACTER SHOWN USING *WHITE* INK

2. FOR MATERIAL SEE P/L NO. 122038

. REF SCHEMATIC 122036

OTE: UNLESS OTHERWISE SPECIFIED

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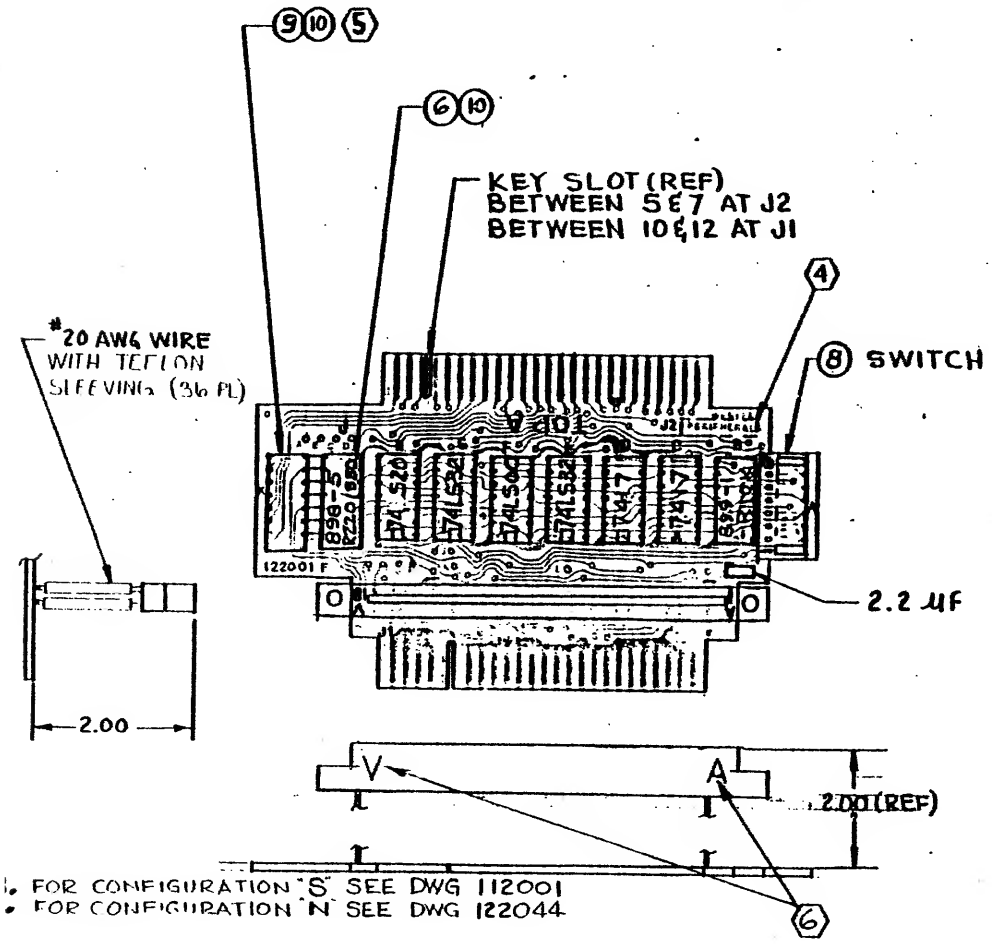
TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals ANAHEIM, CALIFORNIA		
APPROVALS	DATE	ASSEMBLY- ADAPTER TAPE CONTROL CONNECTOR 90° MOUNTING		
DRAWN CORUM	11-8-76			
CHECKED N.D.	12-16-76	SCALE FULL	SIZE B	DRAWING NO. 122038
		DO NOT SCALE DRAWING		SHEET 1 OF 1



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	E.C.O. NO.-0143	1-18-77	
B	E.C.O. NO.-0190	6-3-77	
C	E.C.O. NO.-0197	8-8-77	
	E.C.O. NO-299 (NO REV. LTR. CHG.)	3-8-78	
	ADDED NOTE 7. PER E.C.O. 257	3-21-78	
D	USE 'F' REV. PWB, REF. ECO No. 236A	5-16-78 PAUL CHAPMAN	
E	DELETED NOTES 3 & 6 PER ECO #414	2/11/79	
F	ADDED NOTE ⑥ PER ECO # 504	6-20-79	

6 I.C. "H" S/B 74S20 ECO 806

. FOR CONFIGURATION 'S' SEE DWG 112001
. FOR CONFIGURATION 'N' SEE DWG 122044

) MARK CHARACTERS SHOWN (A&V) ON SIDE OF CONNECTOR USING CONTRASTING INK.

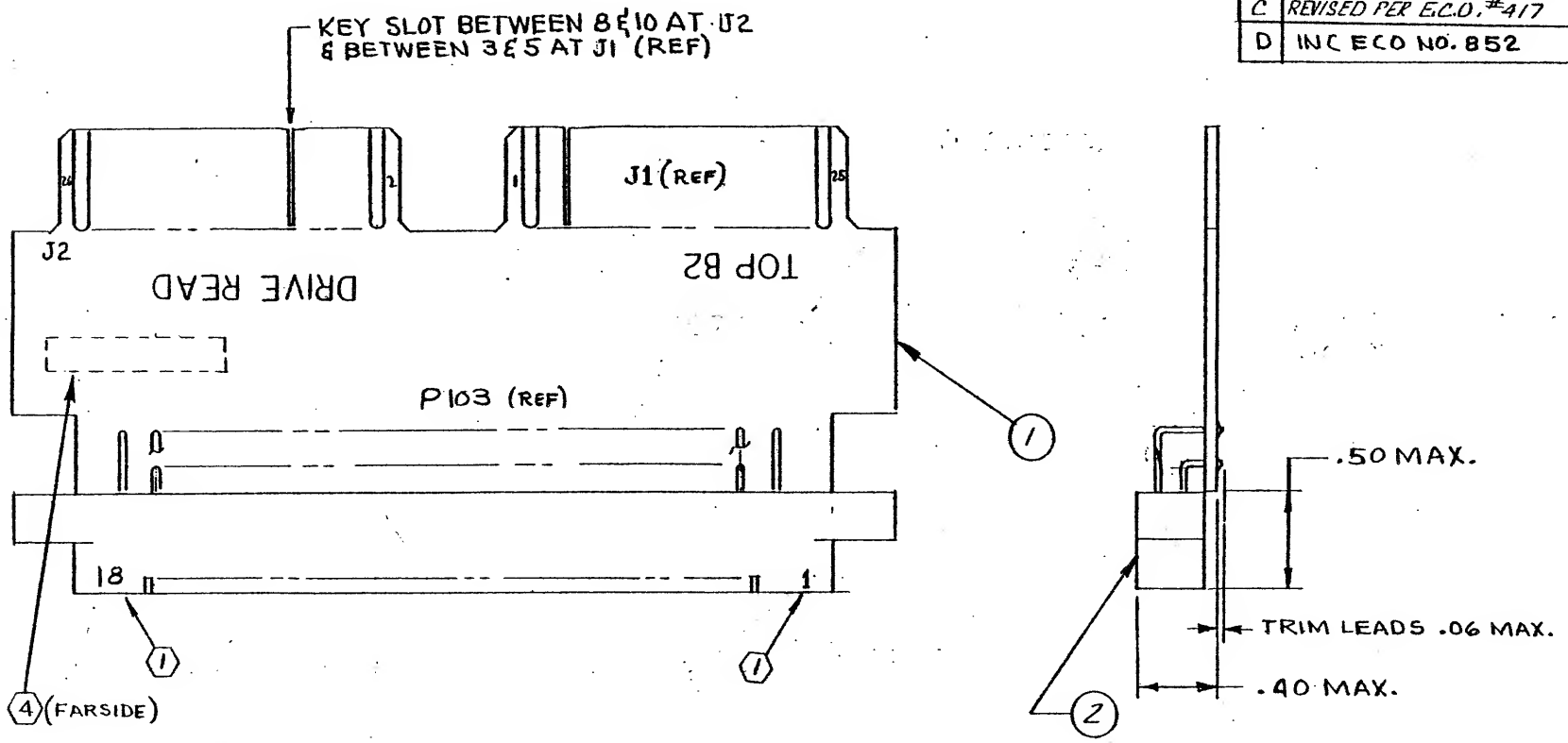
) FOR OPTIONAL JUMPERING AND/OR JUMPER ARRAYS, REF J.O.A. & SCHEMATIC

) RUBBER STAMP ASSY NO. WITH LATEST REV LTR LOCATED APPROX WHERE SHOWN (FAR SIDE)

. FOR MATERIAL SEE P/L NO. 122039
. REF SCHEMATIC 122036
OTE: UNLESS OTHERWISE SPECIFIED

TOLERANCES UNLESS OTHERWISE SPECIFIED			western peripherals ANAHEIM, CALIFORNIA		
FRACTIONS ±	DEC. ±	ANGLES ±	ASSEMBLY- ADAPTER TAPE CONTROL CONNECTOR 2 INCH STAND OFF		
APPROVALS	DATE				
DRAWN CORUM	11-8-76				
CHECKED V.D.	12-16-76		SCALE FULL	SIZE B	DRAWING NO. 122039
			DO NOT SCALE DRAWING		SHEET 1 OF 1

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	REVISED NOTE 1 PER E.C.O.#355	2/2/79	
B	ADVANCED REV LTR TO AGREE WITH P/L	2/2/79	
C	REVISED PER E.C.O.#417	2/2/79	
D	INC ECO NO. 852 JWA 3-19-81	3/24/81	



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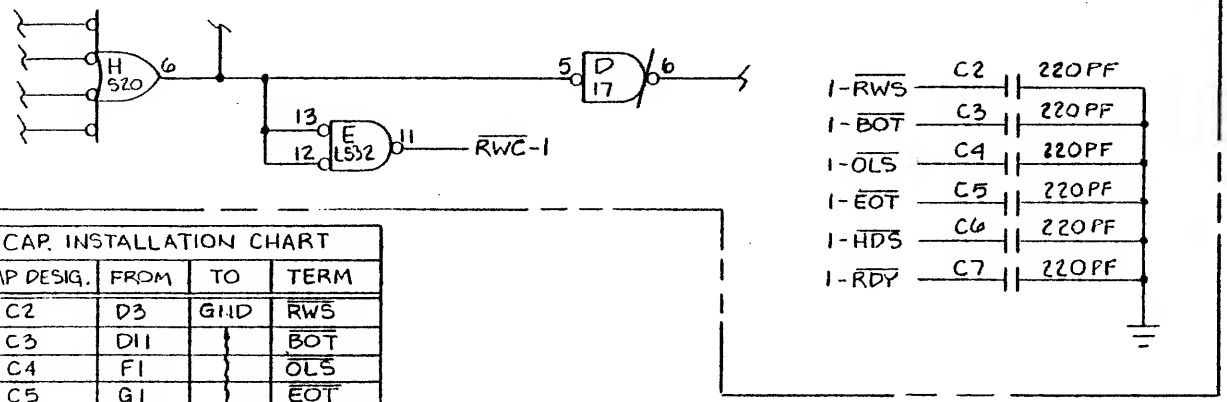
(4) RUBBER STAMP ASSY. NO. WITH LATEST REV LTR APPROX. WHERE SHOWN.
3. SEE P/L 122043.
2. REF. SCHEMATIC DWG NO. 122022.
(1) RUBBER STAMP CHARACTERS SHOWN WITH WHITE INK.

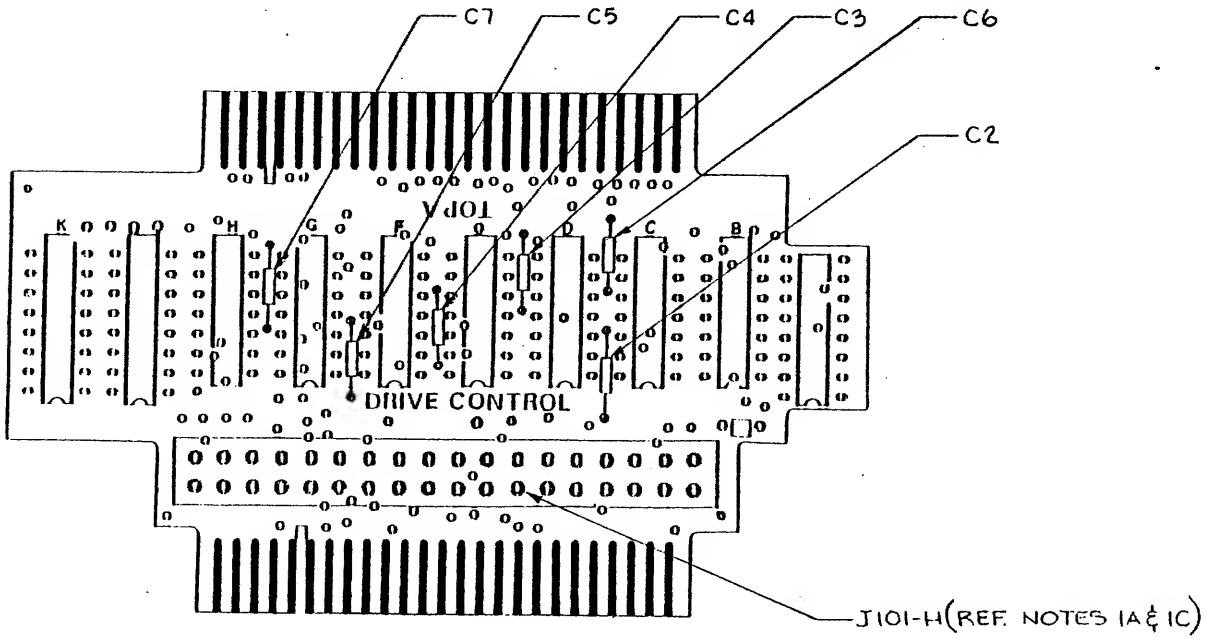
OTE : UNLESS OTHERWISE SPECIFIED.

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals ANAHEIM, CALIFORNIA		
APPROVALS	DATE	ASSEMBLY-ADAPTER, TAPE READ, REVERSE IMAGE, 90°		
DRAWN	6/7/77			
CHECKED N.D.	6-11-77	SCALE 2X	SIZE B	DRAWING NO. 122043
		DO NOT SCALE DRAWING		SHEET 1 OF 1

CONFIGURATION "N" CONTROL ADAPTER BOARD



CAP. INSTALLATION CHART			
CAP DESIG.	FROM	TO	TERM
C2	D3	GND	$\overline{RWS}$
C3	D11		$\overline{BOT}$
C4	F1		$\overline{OLS}$
C5	G1		$\overline{EOT}$
C6	F9		$\overline{HDS}$
C7	G13	GND	$\overline{RDY}$



REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	REDRAWN PER ECO. 237	10-27-77	
B	REVISE PER ECO. 257	3-21-78	
C	REVISE PER E.C.O. 236-A	5-16-78	
D	DELETE REWORK FOR "D" REV PWB PER E.C.O. 781	10-15-80	
E	CHANGED I.C. LOC'N PER ECO R06	12-3-80 BA	

REWORK INSTRUCTIONS: (REF ASSY'S 122037, 122038 & 122039)

1) MODIFY CIRCUIT
   A. CUT ETCH (SOLDER SIDE) AT J101-H
   B. JUMPER F5 TO E12 & 13 (SOLDER SIDE)
   C. JUMPER E11 TO J101-H (SOLDER SIDE)
2) COMPONENT ADDITION & MARKING
   A. ADD (6) 220PF CAPACITORS (C2 THRU C7) AT LOCATIONS SHOWN
   B. IDENTIFY AS "CONF N" AT ASSY NUMBER USING BLACK INK
3) THIS MOD PROVIDES ISOLATION & FILTERING FOR ADAPTER ELECTRONICS
4) MATERIAL REQUIREMENTS:
   A. (1 REQ.) BOARD ASSY. AS NOTED IN PROCEDURES ABOVE
   B. (6 REQ.) 220PF CAPACITORS (WP15000195)
5) VERIFY PROPER CAPACITOR INSTALLATION BY PERFORMING CONTINUITY CHECK PER THE CAPACITOR INSTALLATION CHART
6) REF. SCHEMATIC 122036
7) APPLICABLE TO "F" (OR LATER) REV PWB ONLY. TO RETROFIT OLDER ASSEMBLIES WITH "D" REV PWB, REFER TO "C" REV HISTORY COPY OF THIS DRAWING

DEC 24 1980

TOLERANCES UNLESS OTHERWISE SPECIFIED		
FRACTIONS	DEC	ANGLES
±	±	±

APPROVALS	DATE
DRAWN D. ANDERSEN	10-16-80
CHECKED	10-16-80

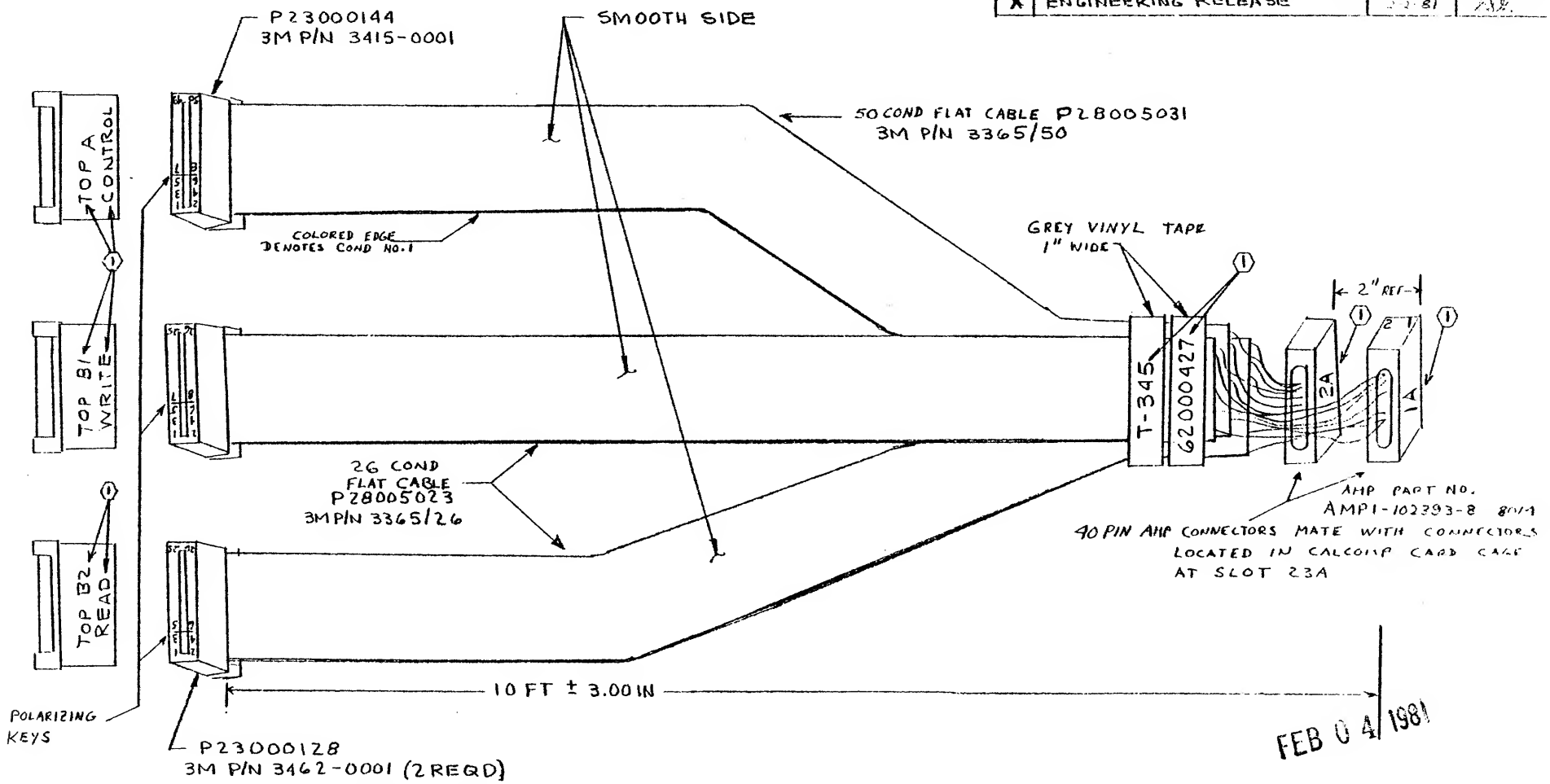
western peripherals ™ TUSTIN, CALIFORNIA

MODIFICATION DWG - TAPE CONTROL ADAPTER CONFIGURATION "N"

SCALE	SIZE	DRAWING NO.
~	B	122044

DO NOT SCALE DRAWING | SHEET 1 OF 1

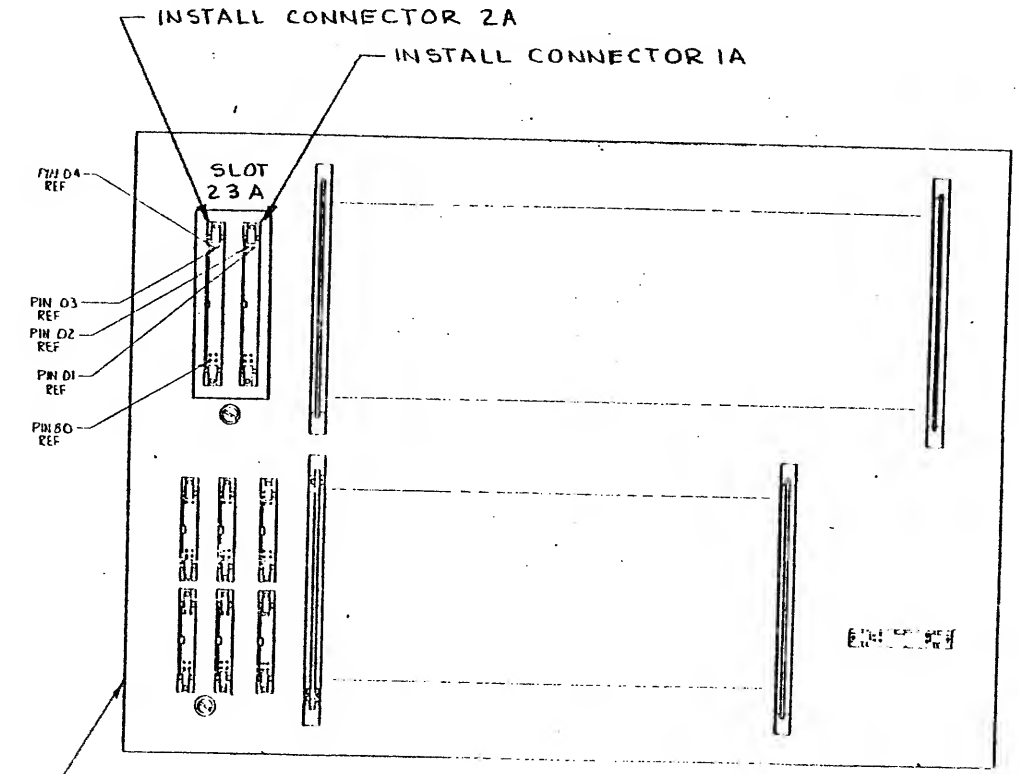
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
X	ENGINEERING RELEASE	2-2-81	ASB



FEB 04 1981

① MARK CHARACTERS SHOWN USING CONTRASTING COLOR INK
2. ALL EVEN NUMBERED PINS ARE SIGNAL RETURNS
3. ALL UNUSED CONDUCTORS MUST BE KEPT ISOLATED FROM EACH OTHER.
4. WIRE PER A SIZE SHTS 3, 4, 5 & 6 OF THIS DWG.

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC ± ANGLES ±		western peripherals ™ TUSTIN, CALIFORNIA		
APPROVALS	DATE	ASSY-CA, TC130/CALCOMP (T-345)		
DRAWN CORUM	12-12-80			
CHECKED		SCALE NO SCALE	SIZE B	DRAWING NO. 62000427
		DO NOT SCALE DRAWING		SHEET 1 OF 6



CAL COMP SWING OUT CARD CAGE
(SHOWN FOR REF ONLY)

FEB 04 1981

western peripherals™
TUSTIN, CALIFORNIA

SIZE	CODE IDENT NO	DRAWING NO
B		62000427

SCALE NO SCALE | SHEET 2 OF 6

WIRE LIST

By CORUM Date 12-12-80

Checked By

Date

Sheet 3 of 5

Work Order

Drawing 62000427

Rev.

ITEM	FROM		TO	GAGE	COLOR	TYPE ROUT.	LOGIC NAME
	CONTROL "A" CONN	9	2A - 25	50/C FLAT			
	"	10	" -26	"			
		11	" -39				
		12	2A -40				
		13	1A - 39				
		14	" -40				
		15	" -37				
		16	" -38				
		17	" -31				
		18	1A - 32				
		19	2A - 31				
		20	" -32				
		21	" -27				
		22	" -28				
		23	" -35				
		24	2A - 36				
		25	1A - 29				
		26	1A - 30				
		27	2A - 29				
		28	" -30				
	"	29	" -23	"			
	CONTROL "A" CONN	30	2A - 24	50/C FLAT			

FEB 01 1991

WIRE LIST

By COBUM Date 12-12-80

Checked By

Date

Sheet 4 of 6

Work Order

Drawing 62000427

Rev. /

ITEM	FROM		TO	GAGE	COLOR	TYPE ROUT.	LOGIC NAME
	CONTROL "A" CONN	31	1A -33	50/C FLAT			
	↓	32	1A -34	↓			
		33	2A-33				
		34	2A-34				
		39	1A-25				
		40	↑ -26				
		41	-23				
		42	-24				
	↓	43	↓ -19	↓			
	CONTROL "A" CONN	44	1A -20	50/C FLAT			
	WRITE "B1" CONN	1	2A-21	26/C FLAT			
	↑	2	↑ -22	↑			
		3	-19				
		4	-20				
		5	↓ -37				
		6	2A-38				
		7	1A-15				
		8	1A-16				
		11	2A-15				
		12	↑ -16				
	↓	13	↓ -3	↓			
	WRITE "B1" CONN	14	2A-4	26/C FLAT			

FEB 04 1981

WIRE LIST

By CORUM Date 12-12-80

Checked By

Date

Sheet 5 of 6

Work Order

Drawing 62000427

Rev.

ITEM	FROM	TO	GAGE	COLOR	TYPE ROUT.	LOGIC NAME
	WRITE "B1" CONN 15	1A - 11	26/C FLAT			
	16	-12				
	17	-3				
	18	1A -4				
	19	2A -11				
	20	-12				
	21	-7				
	22	2A -8				
	23	1A - 7				
	WRITE "B1" CONN 24	1A - 8	26/C FLAT			
	READ "B2" CONN 1	2A-17	26/C FLAT			
	2	2A-18				
	3	1A-13				
	4	1A -14				
	5	2A-13				
	6	2A-14				
	7	1A - 9				
	8	1A - 10				
	9	2A - 9				
	10	2A - 10				
	11	1A - 5				
	READ "B2" CONN 12	1A - 6	26/C FLAT			

FEB 04 1981

WIRE LIST

By CORUM Date 12-12-80

Checked By

Date

Sheet 6 of 6

Work Order

Drawing 62000427

Rev. /

ITEM	FROM	TO	GAGE	COLOR	TYPE ROUT.	LOGIC NAME
	READ "E2" CONN 13	2A - 5	26/C FLAT			
	↑ 14	2A - 6	↑			
	19	1A - 1				
	20	↑ 2				
	21	↓ 35				
	22	1A 36 -				
	↓ 23	2A - 1	↓			
	READ B2 CONN. 24	2A - 2	26/C FLAT			

FEB 04 1981

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	PROD. RLSE	8-29-80	
B	REVISE "PURPOSE" PER ECO. 330	1-21-81	

PURPOSE:

PROVIDES COMPATABILITY WITH C.D.C. OR OTHER TAPE DRIVES WITH 2.75 INCH SPACING FROM LOAD POINT SENSOR TO READ/WRITE HEAD. (DOES NOT APPLY TO C.D.C 92149)

GENERAL DESCRIPTION:

PROM (PART NO. 120021-A) WHICH USUALLY CONTROLS BOT GAP SPACING MUST BE REPLACED WITH PROM NO. 120028. THE DIFFERENCE IN CONTENT OF ADDRESSES 4$_8$ AND 6$_8$ IS SHOWN BELOW;

	STANDARD (PROM 120021-A)	CONF. "C" (PROM 120028)
ADD 4$_8$	10001111	01110000
ADD 6$_8$	11110011	10111011

IMPLEMENTATION:

THE PROM LOCATIONS REQUIRING THE 120028 IN LIEU OF THE 120021-A ARE AS FOLLOWS AND APPLY TO NRZI ONLY UNITS AS WELL;

TC120 (REF. ASSY. 60000411 OR 60000429) LOCATION 2L
TC130, BD#1 (REF. ASSY. 130017) LOCATION 12C
TC140 (REF ASSY. 60000023 OR 60000130) LOCATION 14H
TC150, BD#1 (REF. ASSY. 60000080) LOCATION 12C

NOTE:

PROM NUMBERS 120021-A AND 120028 ARE LISTED AS P17009507 AND P17009606 RESPECTIVELY UNDER NEW COMPUTER PART NUMBERING SYSTEM.

JAN 21 1981

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS DEC. ANGLES ± ± ±		western peripherals ™ TUSTIN, CALIFORNIA		
APPROVALS	DATE	MODIFICATION DRAWING- TC120/TC130/TC140/TC150 CONFIGURATION "C"		
DRAWN DENNIS ANDERSEN	8-29-80			
CHECKED	8-29-80	SCALE —	SIZE A	DRAWING NO. 79000402
		DO NOT SCALE DRAWING		SHEET 1 OF 1

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	9-15-80	

PURPOSE: TO PROVIDE START-UP AT 1600 B.P.I.

In order to initialize in the 1600 B.P.I. mode of operation, PROM's U45 and U56 in the upper-left corner of the Control Board must be of the proper type. A jumper must be installed.

1. The Prom Part Numbers can be 754013810 and 754013811 with revision levels of "G" or higher, or they may have part numbers beginning with 154 with any revision level.
2. A jumper must be installed between Pads "BP" and "BR" which are located below the PROMs and directly above U55.
3. After modification, install an adhesive label inside the front panel of the drive near the upper reel motor and Cipher label. The adhesive label should read: "Modified per Western Peripherals Configuration "A", Dwg. 79000410.

SEP 15 1980

TAPE DRIVE MODIFICATION

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC. ± ANGLES ±		western peripherals ™ TUSTIN, CALIFORNIA		
APPROVALS	DATE	MODIFICATION DRAWING - CIPHER 900X, CONFIGURATION "A"		
DRAWN H. DEUTSCH	9-15-80			
CHECKED D Scully	9-15-80	SCALE	SIZE A	DRAWING NO. 79000410
		DO NOT SCALE DRAWING		SHEET 1 OF 1

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	12-30-80	[illegible]

PURPOSE: TO ELIMINATE WRITE AND/OR READ ERRORS WHEN TAPE IS AT B.O.T. AND DRIVE IS OFF-LINE.

When Cipher 900X Tape Drives are received from vendor, they have the jumpers set in such a way that if the drive is off-line and at B.O.T., the computer receives a tape unit ready status and Write/Read errors are detected if the CPU attempts any Write/Read operation.

1. To prevent the above from happening, remove jumper BD to BC and install jumper BA to BB located in the vicinity of IC U52 on the Control/Servo PCB of the Cipher 900X type drive.

2. After modification, install an adhesive label inside the front panel of the drive near the upper reel motor and Cipher label. The adhesive label should read: Modified per Western Peripherals Configuration "B", Dwg. 79000642.

3. Reference Cipher Control/Servo Schematic 355012-300.

TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONS ± DEC. ± ANGLES ±		western peripherals ™ TUSTIN, CALIFORNIA		
APPROVALS	DATE	MODIFICATION DRAWING - CIPHER 900X, CONFIGURATION "B"		
DRAWN [illegible]	12-30-80			
CHECKED H. [illegible]	12-30-80	SCALE	SIZE A	DRAWING NO. 79000642
		DO NOT SCALE DRAWING		SHEET 1 of 1

NOTES

INSTALLATION CHECKLIST - CIPHER 100X

1. Open carton.
2. Turn over and lift off carton.
3. Remove corner pads.
4. Open inner carton.
5. Turn over and lift off carton from drive.
6. Locate manual and mounting hardware.
7. Inspect the drive - Contact the carrier if any concealed shipping damage is discovered.
8. On some cabinets, a mounting frame is required to mount the drive because the door swings against the edge of the cabinet. Mount the extender frame at the appropriate location in the cabinet. Be sure the hinge holes are on the correct side.
9. Refer to the tape drive manual.
10. Mount the tape drive hinges at an appropriate location on the cabinet. Place the longer hinge at the top. Place nylon washers on hinge pins.
11. Place drive on its back and remove screw from shipping frame.
12. Mount drive on hinges and secure with hinge safety block. Secure drive latch.

NOTES

ADDITIONAL NOTES PRECEEDING APPENDIX